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U. S. DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES

FISHERY INDUSTRIES OF THE UNITED STATES 1935

By R. H. FIEDLER

ADMINISTRATIVE REPORT No. 24

A. M. Sandberg

A. M. SANDBERG

U. S. DEPARTMENT OF COMMERCE
DANIEL C. ROPER, Secretary
BUREAU OF FISHERIES
FRANK T. BELL, Commissioner

Administrative Report No. 24

FISHERY INDUSTRIES OF THE UNITED STATES

1935

By R. H. FIEDLER

APPENDIX II TO REPORT OF COMMISSIONER OF FISHERIES
FOR THE FISCAL YEAR 1936

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ADMINISTRATIVE REPORT SERIES

Since the beginning of the Administrative Report Series, considerable confusion has arisen concerning the system of numbering the separates composing it. Inasmuch as the Reports of the Divisions vary in order from year to year, many have found their designations as "Appendix No. I, II, III, or IV" very confusing. To relieve this, it has been decided to number them as "Administrative Report No. —." Inasmuch as 20 separates had already been printed in this series before starting the numbers, it was deemed advisable to begin the numbering with Administrative Report No. 21. Of course, numbers cannot be printed on those already off the press, but for the information of those who wish to know what the first 20 were, they are numbered for filing purposes as follows:

No. 1. Report, Commissioner of Fisheries, 1931.
No. 2. Alaska Fishery and Fur-Seal Industries, 1930.
No. 3. Fishery Industries of the United States, 1930.
No. 4. Progress in Biological Inquiries, 1930.
No. 5. Propagation and Distribution of Food Fishes, 1931.
No. 6. Report, Commissioner of Fisheries, 1932.
No. 7. Alaska Fishery and Fur-Seal Industries, 1931.
No. 8. Fishery Industries of the United States, 1931.
No. 9. Progress in Biological Inquiries, 1931.
No. 10. Propagation and Distribution of Food Fishes, 1932.
No. 11. Alaska Fishery and Fur-Seal Industries, 1932.
No. 12. Progress in Biological Inquiries, 1932.
No. 13. Fishery Industries of the United States, 1932.
No. 14. Propagation and Distribution of Food Fishes, 1933.
No. 15. Fishery Industries of the United States, 1933.
No. 16. Alaska Fishery and Fur-Seal Industries, 1933.
No. 17. Progress in Biological Inquiries, 1933.
No. 18. Propagation and Distribution of Food Fishes, 1934.
No. 19. Alaska Fishery and Fur-Seal Industries, 1934.
No. 20. Fishery Industries of the United States, 1934.

Note that the last Commissioner's Report was for 1932. Since then its place has been taken by a reprint from the Report of the Secretary of Commerce under the title "Bureau of Fisheries." Inasmuch as it is no longer a Bureau publication, it is not numbered; but it will be supplied to any who request the Report of the Commissioner for any year since 1932.

FISHERY INDUSTRIES OF THE UNITED STATES, 1935[1]

By R. H. FIEDLER, *Chief, Division of Fishery Industries*

CONTENTS

	Page
Foreword	74
Part 1.—Operations of the Division	
Cooperation with other Federal agencies	74
Cooperation with State agencies	74
Exhibit at San Diego	76
Economic and marketing investigations	76
Manual for economic fishery surveys	77
Survey of fish hatchery foods and feeding practices	77
Horse mackerel fishery of Maine	78
The oyster and oyster industry	78
Cooperative marketing	78
Statistical investigations	80
Biological aspect	80
Economic aspect	81
Surveys conducted	81
Technological investigations	82
Laboratories	82
Preservation of fishery products for food	82
Studies dealing with the spoilage of fish	83
Electrometric tests for freshness of cod and pollock	84
Studies on smoking fish	84
Studies of rancidity in fish	84
Chemistry of fish proteins	85
Canning aquatic foods	86
Bacteriological studies	86
Bacterial decomposition in fresh fish	87
Disinfectants for sponges	87
Pharmacological studies	88
Preservation of fishery byproducts	89
Utilization of salmon cannery waste	89
Manufacture and nutritive value of non-oily fish meals	90
Preparation of authentic halibut-liver oil samples	90
Extraction of oil from halibut livers	91
Variation in the fat content of halibut	91
Fish food factory	92
Rancidity studies of halibut livers, liver oils, and other fishery byproducts	92
Chemical preservation of fish waste	92
Nutritive value of aquatic products	93
Fish-liver oils	93
Menhaden oil for poultry feeding	94
Menhaden fish meal in cattle feeding	94
Studies of the chemistry and nutritive value of fish proteins	95
Nutritive value of mackerel	95
Mineral constituents in fishery products and byproducts	95
Fish cookery studies	96
Research associates and student assistants	96
Educational and consulting services	98
Fishery schools of instruction	98
Publications of the division	99
Documents, reports, and circulars	99
Special articles and addresses	100
Statistical bulletins	101
Part 2.—Fishery Statistics, 1934	
General review	101
Manufactured fishery products	116
Canned fishery products and byproducts trade	121
Frozen fish trade	129
Fish frozen	129
Holdings	131
Cold storage holdings of cured fish	133
Foreign fishery trade	134
Fisheries of the New England States	137
Vessels fisheries at principal New England ports	145
Economic aspect	145
Biological aspect	153
Mackerel fishery of the Atlantic coast	165
Fisheries of the Middle Atlantic States	167
Shad fishery of the Hudson River	173
Fisheries of the Chesapeake Bay States	174
Maryland	179
Virginia	185
Shad and alewife fisheries of the Potomac River	198
Trade in fishery products in Washington, D. C.	198
Fisheries of the South Atlantic and Gulf States	202
North Carolina	210
South Carolina	219
Georgia	221
Florida	224
Alabama	241
Mississippi	244
Louisiana	246
Texas	251
Fisheries of the Pacific Coast States	254
Washington	262
Oregon	267
California	270
Halibut fishery of the Pacific coast	285
Vessel fisheries at Seattle, Wash	287
Lake fisheries	290
Fisheries of the Mississippi River and tributaries	313
Lake Pepin	319
Lake Keokuk	320
Mississippi River between Lake Pepin and Lake Keokuk	322
Fisheries of Alaska	323
Statistical survey procedure	330
Sectional surveys	330
Local and special surveys	336
Practices and terms	339
Conversion factors	339
Common and scientific names of fishery products	342

[1] Administrative Report No. 24, Appendix II to the Report of the U. S. Commissioner of Fisheries, 1936. Approved for publication, June 3, 1936.

FOREWORD

This report constitutes a summary of the activities of the Division of Fishery Industries as well as an annual review of fishery statistics. As its name indicates, this Division of the Bureau is concerned with the activities and welfare of the commercial fishery and fishery industries, the trade in fishery products, and the fish canning and preserving industries. Its functions include the collection and publication of fishery statistics, the conducting of market surveys, the prosecution of research designed to solve the technical prob ems of the industry, and the dissemination of authoritative and practical information to the fishery industries and the public. Results of technological investigations and marketing studies are published in separate documents as each project is completed. The information obtained from statistical surveys is published in part 2 of this report, which includes all the detailed statistical information that has become available since the issuance of the previous report,[2] together with such summarized statements and interpretations of the statistics as are deemed significant and useful. In the preparation of this report, members of the Division's staff have taken part and their assistance is appreciatively acknowledged.

Part I. OPERATIONS OF THE DIVISION

COOPERATION WITH OTHER FEDERAL AGENCIES

As in previous years, various members of the Division's technological, economic, and statistical staff assisted other Federal agencies where the work or studies of such agencies required information or advice concerning the fishery industry.

The Bureau also has cooperated with various Federal agencies in obtaining statistical data on our fisheries. The Bureau has the cooperation of the Bureau of Agricultural Economics, Department of Agriculture, in the collection of statistics on the volume of cold-storage holdings of fish, and the health authorities in Washington, D. C., in obtaining the volume of fish handled at the Municipal Fish Wharf and Market in this city. In another instance the Bureau obtains figures on the volume of the quarterly production and holdings of fish oils for the Bureau of the Census.

During most of the past year, the technologists in several of our laboratories carried on a portion of the cooperative work undertaken by the Bureau of Fisheries, the Bureau of Chemistry and Soils, and the Food and Drug Administration, in connection with the development of standards for halibut-liver oil essential in the administration of the Federal Food and Drug Act, and for other purposes. This cooperative investigation will be described in detail elsewhere in this report.

COOPERATION WITH STATE AGENCIES

In the conduct of its technological investigations, the Bureau has always encouraged and fostered cooperation with the States. By working in close conjunction with the members of the research staffs of various State laboratories and institutions, we have been able to increase the productivity of our relatively small technological staff

[2] Fishery Industries of the United States, 1934. By R. H. Fiedler, Appendix II to the Report of the U. S. Commissioner of Fisheries for 1935, pp. 75–330.

and have been able to carry out such cooperative investigations at considerably less cost. During the past year, the following cooperative investigations were conducted in the State institutions listed:

A member of our technological staff was stationed in the laboratories of the State Medical College, Charleston, S. C., where members of the staff of the State Medical College have given valuable cooperation in a study of the mineral content of aquatic products. Dr. Roe E. Remington and Dr. Kenneth M. Lynch participated in these investigations.

At Massachusetts State College, Amherst, Mass., laboratory facilities were provided for our bacteriologist to study methods for handling fish. Members of the Massachusetts State College staff cooperating in these investigations were Drs. Fellers, Fuller, and Bradley.

At George Washington University, Washington, D. C., Dr. Leland W. Parr, associate professor of bacteriology in the school of medicine, assisted in the supervision of one of our cooperative investigations on sponge disinfectants.

At Cornell University, Ithaca, N. Y., Drs. H. S. Wilgus, Jr., L. C. Norris, and G. F. Heuser cooperated in making feeding tests of fish meals experimentally prepared in our technological investigations.

Dr. J. S. Carver, of Washington State College, Pullman, Wash., cooperated during the past year in carrying on tests with poultry in the feeding of salmon oils and meals experimentally prepared in our Seattle and Alaska laboratories.

The University of Washington, Seattle, Wash., placed space at the disposal of members of our Seattle technological laboratory for the conduct of certain byproducts investigations.

In addition to furnishing free space for the Bureau's laboratories in two of its buildings (discussed elsewhere in this report), the University of Maryland and the Maryland State Agricultural Experiment Station, College Park, Md., carried on in its various laboratories and departments of animal husbandry, cooperative investigations of the feeding value of fishery byproducts. The members of the staffs of these two institutions engaged in these cooperative investigations were Dr. L. B. Broughton, Dr. W. C. Supplee, L. E. Bopst, and M. H. Berry.

A cooperative study of the chemistry of fish proteins was conducted in the laboratories of Western Maryland College, Westminster, Md. Prof. Samuel B. Schofield, head of the chemistry department of this institution, assisted in the supervision of this project.

The Massachusetts Department of Agriculture cooperated with our fish cookery and home economics worker in conducting demonstrations at schools, women's clubs, and various other gatherings in the State of Massachusetts. This educational work was carried on by Miss Agnes I. Webster of our staff under the supervision of R. H. Sullivan, of the State Department.

All of the above cooperative investigations are discussed in detail elsewhere in this report.

In the conduct of its statistical research work, the Bureau also obtains unusual cooperation from various States. The surveys of the fisheries in the various States bordering on the Great Lakes, in the

Pacific Coast States, and in Maryland and Virginia, have been greatly facilitated by special cooperation obtained from the State fishery agencies in these States. With this aid, it is now only necessary for the Bureau to conduct partial surveys in these States to supplement the data available from the fishery agencies.

In addition, in nearly every other State where commercial fishing is prosecuted, some type of cooperation on its statistical work is rendered the Bureau by the State fishery or other agencies. This makes it possible for the Bureau to make statistical surveys of a greater portion of our fishery industries than otherwise would be possible.

EXHIBIT AT SAN DIEGO

A display depicting the activities of the Bureau was on exhibit during the past year at the California Pacific International Exposition, San Diego, Calif. This was developed by the Division and was part of the Department of Commerce display, housed in the Federal Building. The principal feature was a large diorama, consisting of a painted background of a mountain scene with a built-up foreground of rocks, trees, and underbrush. A pool of water containing live bass and other warm-water fishes was incorporated in the foreground. The fish were supplied by the Bureau and cared for by the California Department of Natural Resources, Bureau of Fish Culture. The painting depicted the fish cultural activities of the Bureau in propagating fish for angling and for capture in the commercial fisheries.

A series of 48 colored transparencies framed in two cross-shaped standards depicted some of the activities of the other Divisions. A booklet giving a brief description of the Bureau's work was distributed to interested persons.

ECONOMIC AND MARKETING INVESTIGATIONS

There is a recognized need of economic and marketing studies as aids to the industry in merchandizing its commodity. Such studies have been made by the Division in the past and are being continued now as far as possible with the limited funds available; however, they have not been on a scale commensurate with so important an industry, and one which is in such obvious need of these services.

In order to interest a wider group of fishery management officials in this type of work, the writer again urged the members of the National Planning Council of Commercial and Game Fish Commissioners at their meeting in Chicago, Ill., in April 1935, to enter this field of endeavor to aid in bringing about more stable conditions in the fishery industry. Also during the year the writer personally visited the directors of many schools of economics or business administration in various colleges of the country in order to enlist their aid in making economic fishery studies. Without an exception these men were willing to offer any cooperation possible. Since then several schools have begun student studies of localized fishery problems, all of which will be of value to the industry.

The industry in general has realized the need for economic information and through the Fishery Advisory Committee of the Secretary of Commerce, it has endorsed H. R. 8055, now pending in Congress. This bill, introduced by Congressman Bland, chairman of the Com-

mittee on Merchant Marine and Fisheries in the House of Representatives, provides for the conduct of economic fishery research, and for market news and extension services for the fishery industry; these services to be carried on by the Bureau of Fisheries.

MANUAL FOR ECONOMIC FISHERY SURVEYS

In order to be of aid to fishery management officials, teachers of economics and others in making economic fishery studies, a manual for the conduct of such work was prepared by the writer, assisted by F. F. Johnson, Assistant Chief of the Division, and others. This has been developed in such a manner that it can be used in whole or in part, depending upon the personnel and funds which may be available. The manual consists of schedules for obtaining primary market information, instructions for making the surveys, sample forms for use in tabulating the data, and instructions for tabulation. These were used as the basis for a survey undertaken during this year throughout the State of Florida by the Florida Works Progress Administration with the cooperation of this Bureau, and under the sponsorship of the State board of conservation. Another was undertaken in the city of Durham, N. C., by Duke University, under the supervision of Prof. A. J. Nichol. Several copies of these plans are available from the Bureau for loan to interested parties.

SURVEY OF FISH HATCHERY FOODS AND FEEDING PRACTICES

During the past year the fish cultural stations of the country were confronted with the problem of increased operating expenses because of the rising costs of packing-house products for fish food. This was brought forcibly to the attention of the State and Federal fish hatchery operators at the third meeting of the National Planning Council of Commercial and Game Fish Commissioners at Chicago in April 1935. At that time it was suggested that a survey be made of available fish foods with the view of finding suitable substitutes which might be available at a lower price. This was undertaken by the Bureau and the findings were reported at the sixty-fifth annual meeting of the American Fisheries Society at Tulsa, Okla., in September 1935, in a report by the writer and V. J. Samson, marketing agent of the Division.

In brief, the survey recorded that in 1934 fish hatchery operators used 11,455,000 pounds of fish food, valued at about $608,000. That great dependence is being placed on packing-house products was shown by the fact that three-fourths of the volume used consisted of such items as animal livers, hearts, and other animal organs which also were among the most expensive feeds used. However, while this condition obtained as regards all hatcheries, it was found that the commercial hatcheries contrasted to Government hatcheries, placed great dependence upon lower-priced fishery products for feeding purposes. These products were available at about one-third the cost of meat or dairy products used.

In the light of evidence obtained by various investigators and in the practical operation of governmental and State hatcheries, it appears that the protein content of the ration can be adequately supplied by a liberal use of fishery products especially for their stocks beyond the fry or juvenile stage of development. With this in mind,

the Bureau of Fisheries is making greater use of fishery products at some of its hatcheries, especially on the Pacific coast. Here a small reduction plant has been installed at one of its hatcheries to manufacture meal from spent salmon. Also at some of the other Bureau hatcheries and at some State hatcheries, carp and other varieties of fish are utilized.

HORSE MACKEREL FISHERY OF MAINE

Increasing interest recently has been manifested in the horse mackerel fishery of Maine. It contributes a considerable share to the commercial fisheries of that State, and also the fish is much sought after by sportsmen. Also the fish is somewhat important to commerce because its liver is high in vitamins A and D. In view of this interest a report was prepared on the fishery by Walter H. Rich, the Bureau's agent at Portland, Maine. This has been published as Memorandum S–339, and has been widely distributed by civic and sportsmen's organizations in Maine.

THE OYSTER AND OYSTER INDUSTRY

At the request of the Oyster Growers and Dealers Association of North America, Inc., an association representing the industry in the country, a paper was prepared by the writer on the biology of the oyster, methods of capture and handling, its food value, and recipes for preparing it for the table. This has been published by the Bureau as Fishery Circular No. 21. It is being used by the industry in its educational campaign to increase the consumption of oysters.

COOPERATIVE MARKETING

The Seventy-third Congress approved, June 25, 1934, an act known as Public, No. 464, entitled "An act authorizing associations of producers of aquatic products." This act imposes various duties upon the Secretary of Commerce, which are in turn administered by the Bureau of Fisheries. In October 1935 the Bureau of Fisheries established a cooperative marketing unit in the Division of Fishery Industries, in charge of L. C. Salter, fishery economist, to have immediate supervision of administering this act. Since being established, a study has been conducted of the extent to which fishermen are organized and are acting through cooperative associations, as no compiled information was available regarding such activity in this country. Also, a study was made to learn to what extent States have enacted legislation pertaining to fishermen's associations, and whether the various States have encouraged the organization and operation of fishermen's cooperative organizations.

As a result of this work it was found that there are approximately 100 fishermen's organizations in the United States. Information has revealed that a large majority of fishermen's associations act in the capacity, or are similar to, labor unions and conduct protective functions such as matters pertaining to legislation, general labor conditions, and carry on negotiations with canners, processors, and other manufacturers with regard to fishermen's compensation, or in determining the prices of fishery products. For the most part, the associations are unincorporated and rather loosely organized, insofar

as our information has revealed. Inadequate finances and limited leadership are evidently prevalent. There are, however, some 12 or 15 associations that are conducting cooperative marketing activities of a commercial nature and in which the products of their fishermen members are received and sold, and in which certain processing functions may be conducted prior to selling. A few of the associations make financial arrangements for the extension of credit to members in supplying of foodstuffs, marine and fishery supplies and equipment.

Research regarding State laws pertaining to fishermen's associations indicates that limited legislation of this nature has been enacted. In no case has it been found that State legislation has been enacted which specifically authorizes associations of producers of aquatic products. By contrast, 47 States have specific State statutes authorizing associations of producers of agricultural products. In the 38 States in which commercial fishing is conducted, 13 States have laws that are of a general cooperative nature, under which fishermen may organize cooperative associations. A number of instances were found where the general corporation laws of States provide for nonprofit associations, and in all probability nonprofit associations may be organized by fishermen under the general corporation laws of most States. There are certain privileges or benefits that are usually conveyed by specific cooperative acts which are not usually enjoyed by associations set up under general corporation laws. However, the lack of specific cooperative statutes should not be a deterring factor in the organization of fishermen's cooperatives provided that other conditions are favorable.

Other work pertaining to fishermen's cooperative associations has been to learn something of the nature and extent of their functions. Questionnaires and circular letters seeking information along this line have been sent to associations, State departments of conservation, fishery commissions, and other State officials. This work is being continued, and it is expected that a complete report will be made in the near future regarding the nature and extent of the functions of fishermen's cooperative marketing associations.

When the cooperative unit was established by the Bureau information was furnished State departments and the fishery industry in general, acquainting them of the Bureau's proposed activities in the field of fishery cooperative marketing work. Many comments were received from over the country, expressing the need for, and anticipating the desirable effects of, this work. Numerous requests have been received from several commercial fishing areas that the Bureau spend some time in the cooperative work among fishermen. As fishermen themselves have become acquainted with the nature of this work, they have written the Bureau, depicting the depressed conditions existing in their markets and expressing the desire that the Bureau assist them in solving their marketing problems. Requests were received, also, for information pertaining to the organization and operation of fishermen's associations. As a result of these numerous inquiries and requests, the Bureau issued Special Memorandum No. 2600, entitled "Organizing and Incorporating Fishery Cooperative Marketing Associations", by L. C. Salter. This publication contains information regarding: (1) The aims and principles of fishery cooperative associations; (2) procedure for organizing associations; (3) opera-

tion methods and policies; and (4) legal requirements and corporate structure. The publication contains, also, suggested legal forms and corporate papers for fishermen's marketing associations. Copies are available for distribution, upon request, by the Bureau.

In addition to the above, considerable assistance has been given to fishery cooperative associations and groups of fishermen interested in forming such associations.

STATISTICAL INVESTIGATIONS

Fishery statistics are collected by the Bureau to serve two principal purposes—first, biological, and second, economic. For this reason the Bureau must plan its statistical surveys to obtain comprehensive data for furnishing a complete and reliable picture of the condition and trend of the fisheries. The collection and compilation of the great mass of data necessary, involves many problems. The fisheries are broad in scope, including over 160 varieties of aquatic products which enter into commercial production. These, many of which are migratory, are taken by a great variety of types of gear in water areas along our seacoast and in our interior lakes and streams. If the biological aspect is to be served, complete annual statistics are needed on each of these phases in every section. If the economic aspect is to be served, statistics are needed on not only the phases listed above relative to the biological aspect but also on the price structure, the processing function, and the marketing and distributing functions.

Statistics on these latter phases of the industry should be collected and published as soon as possible after the close of the business transactions in order to be of maximum value to the industry and others interested in the fisheries. However, because of limited funds and personnel, it has not been possible to collect and publish these figures as currently as desired. For the same reason it has not been possible to collect statistics on the fisheries of the entire United States on an annual basis.

BIOLOGICAL ASPECT

The biological aspect must consider two problems—the conservation and sustained supply of the resource and the prediction of future trends or yield. Since our fisheries are usually prosecuted in areas not under private ownership, the problem of the conservation of these fisheries is of national concern. It, therefore, is important that close watch be kept of the condition of the various fisheries to detect depletion so that remedial measures can be promulgated timely and wisely. For this reason it is imperative that current statistical data be obtained on the yield of our fisheries.

These statistics then furnish the biologist with the background upon which to base his prediction of future trends and yields. This he does by coupling the statistical data with studies of the life history of the species. Difficulty is experienced in making these predictions because the supply (or population) of the species cannot be seen, as is the case with farm animals or crops. The more complete and more reliable the statistics on yield are, the better foundation the biologist has for conducting his studies. The Bureau, therefore, aims to obtain a complete picture of each individual fishery to further these biological studies.

ECONOMIC ASPECT

With the fishery conserved and trends and yields of the fishery predicted there still remains the problem of supplying the fishery trade with the information so essential to the conduct of its business activities. In these days of increasing competition the very existence of the fishery industry must depend upon reliable economic statistical information. Such material has been especially valuable during the past few years, when it has been used in national planning. The Bureau, therefore, aims to make its statistical survey so complete that the industry and the various governmental organizations may turn to it for reliable fishery statistics.

SURVEYS CONDUCTED

The statistical surveys during 1935 were conducted under the direction of Fred F. Johnson, Assistant Chief of the Division, aided by E. A. Power, assistant statistician. These surveys included the collection and dissemination of statistics of the commercial catch and its value, operating units, and employment in the fisheries. In addition, data were collected on employment and compensation of those engaged in, and products of, fishery wholesale and manufacturing establishments.

As previously mentioned, limited funds made it impossible to cover all the fishing areas of the country during the past year for 1934. However, the following areas were surveyed: Chesapeake States, South Atlantic and Gulf States, Pacific Coast States, and Lake States. Statistics of the fisheries of Alaska also were collected by the Alaska Division of the Bureau. Summaries of the production in those sections which were not surveyed during the year are included for the most recent years available in part 2 of this report.

In addition to the above, statistics were collected on the following special phases: The landings of fish by American fishing vessels at the ports of Boston and Gloucester, Mass., Portland, Maine, and Seattle, Wash. (published monthly); landings of halibut at North Pacific coast ports (published monthly); catch of mackerel in the North Atlantic fishery; cold-storage holdings of frozen and cured fish and amount of fish frozen, which are furnished by the Bureau of Agricultural Economics (published monthly); production, consumption, and holdings of marine-animal oils of the United States and Alaska (published quarterly by the Bureau of the Census); production of canned fishery products and byproducts of the United States and Alaska; transactions on the sponge exchange at Tarpon Springs, Fla.; volume of fishery products handled at the Municipal Fish Wharf and Market, Washington, D. C.; and the volume of the United States foreign trade in fishery products, furnished by the Bureau of Foreign and Domestic Commerce.

The following statistical and marketing agents assisted in the collection and compilation of the statistical data: H. F. Brown, W. H. Brown (deceased), F. F. Dimick, W. H. Dumont, R. L. Greer, V. E. Heffelfinger, B. E. Lindgren, W. H. Rich, V. J. Samson, C. B. Tendick, and A. S. Young.

The reader is especially referred to the section in the latter part of this report entitled "Statistical survey procedure" which gives in detail the methods employed in the collection of fishery statistics and other pertinent information.

TECHNOLOGICAL INVESTIGATIONS

The fisheries constitute a vast source of raw materials for the products of many industries, including the food, drug, paint and varnish, farming (both of animal and plant foods), soap, and many others. Among the industrial commodities derived from aquatic products are: Adrenaline, acetone, agar, alginates, algin, alginic acid, ambergris, pearls, shells and shell products, buttons, salt products, caviar, fish skins and hides, marine leather, marine-animal oils and meals, coral products, epinephrin, fertilizers, glue, pearl essence, insulin, protamine insulinate and other glandular products, iodine, tortoise shell and ivory, isinglass, eelgrass paper, rubber compounds, seal fur, spermaceti, sponges, and many others of a diversified nature and with a wide range of usefulness. Thus it will be seen that technological research in the fisheries covers a broad field which necessarily involves the sciences of chemistry, engineering, bacteriology, pharmacology, and general technology toward the development of new processes and methods, the salvage of waste products, and toward the more complete utilization of the fishery harvest.

LABORATORIES

During 1935, the Division carried on its technological studies under the direction of Dr. J. R. Manning, in charge of technological investigations, at its laboratories located in Washington, D. C., Gloucester, Mass. (later moved to College Park, Md.), and Seattle, Wash. In addition, certain cooperative investigations were conducted by members of our technological staff in the laboratories of the State Medical College at Charleston, S. C., Massachusetts State College at Amherst, Mass., George Washington University, Washington, D. C., University of Maryland and Maryland State Agricultural Experiment Station at College Park, Md., and Western Maryland College at Westminster, Md. On July 1, 1935, our technological laboratory located at Gloucester, Mass., was moved to College Park, Md., in space provided by the University of Maryland at no charge to the Bureau. This laboratory is equipped with all of the appliances which were formerly located at Gloucester, Mass., and is in addition to the nutrition laboratory which was already located at College Park, Md., in space in a separate building provided by the University of Maryland, also at no cost to this Bureau.

PRESERVATION OF FISHERY PRODUCTS FOR FOOD

Experimental work during the past year in the preservation of fishery products for food was conducted at the Gloucester laboratory during the first half of 1935 and at the recently established College Park laboratory during the latter half of the year under the supervision of James M. Lemon, associate technologist in charge, assisted by Dr. Francis P. Griffiths, junior bacteriologist; Maurice E. Stansby, junior chemist; S. R. Pottinger, junior technologist; W. J. Hart, William B. Lanham, Jr., Willis H. Baldwin, Hillman C. Harris, Donald A. Bean, and Richard M. Locke, research associates and student assistants; and by Norman D. Jarvis, assistant technologist, in charge of experimental canning research in the Washington laboratory. During the first 9 months of 1935, Dr. Griffiths was detailed

to conduct a series of cooperative bacteriological studies at the food products laboratory of the Massachusetts State College, Amherst, Mass.

STUDIES DEALING WITH THE SPOILAGE OF FISH

Studies dealing with the spoilage of fish were continued, attempting to correlate chemical tests with the condition of the fish. Work was limited to two species, the cod and the mackerel. The former is representative of the nonoily fish and its spoilage proceeds in an entirely different manner than do such oily fish as mackerel. It was found that the ammonia content of cod increased fairly regularly with spoilage, and by determining the amount of ammonia present, a valuable auxiliary test for the freshness of cod was available to be used with the electrometric method described in previous reports, as applicable to haddock. It was found that a determination of free amino acids in cod, during spoilage while packed in ice, was of very little value in determining the relative freshness. This is due to the fact that amino acids break down into intermediate spoilage products which are later decomposed. It was found that there was a small initial rise in free amino acid content followed by a slow decrease. Hydrogen sulfide determinations were also found to be of limited value as a test of freshness in cod. In a few cases, significant amounts of hydrogen sulfide were formed, but as a rule, the amounts were almost negligible.

In the case of mackerel, it was found that a determination of the hydrogen sulfide content of the flesh was frequently a good index of the degree of spoilage present. Mackerel frequently feed upon a variety of minute shellfish known to the fishermen, because of the peculiar orange-red color, as "red feed." It was found that fish which had consumed large quantities of the "red feed" upon decomposition gave off considerable quantities of hydrogen sulfide. In some cases, 24 hours after having been caught, appreciable amounts of hydrogen sulfide were found in the flesh of such fish.

In the case of mackerel, the deterioration of the oil must be taken into account. In order to be able to follow the changes occurring in this oil without interference of the protein of the flesh, the oil was extracted from the mackerel and stored under different conditions of temperature and surroundings. It was found that a determination of the peroxide value of the oil could be correlated with the degree of rancidity present if the storage temperature was less than about 65° C. At higher storage temperatures, this method is not applicable. A determination of the free fatty acid content of the oil is in some cases of some value but this test is far less sensitive than the peroxide test. It was found that oil samples stored in a vacuum showed no evidence of deterioration after 1 year's storage. When stored in the presence of carbon dioxide, the rate of oxidation of the oil was retarded. It was found that maleic acid, which is sometimes used for retarding decomposition of oils, had no effect when applied to mackerel oil, but hydroquinone greatly decreased the rate of oxidation of mackerel oil. Enzymes tend to facilitate the oxidation of the oil and, therefore, a preliminary treatment to destroy enzymes decreased the rate of oxidation of the oil, especially at low storage temperatures, but oxidation still proceeded at an appreciable rate.

A quick method for determining the condition of the oil present in fish flesh was developed. This method involves an extraction of the oil by shaking the flesh with ether and sodium sulfate, a process which eliminates the decomposition of the oil usually encountered in the ordinary methods of oil extraction. The extracted oil is then available for chemical tests such as a determination of the peroxide number. The method is suitable for a rapid determination of the oil content of the fish.

ELECTROMETRIC TESTS FOR FRESHNESS OF COD AND POLLOCK

In May 1933 a report was published dealing in considerable detail with a method developed in the laboratory for the determination electrometrically of the relative freshness of haddock.[3] It was stated in that paper that it would be necessary to complete a series of actual tests in order to establish an accurate index which would make the test applicable to other species. During the past year, this was done in the case of cod and pollock showing that the method is applicable for testing the relative freshness of these species.

STUDIES ON SMOKING FISH

A few preliminary studies were begun to determine the effect of the chemical nature of wood smoke relative to its preservative effect upon fish. Sawdust was heated in a combustion furnace and the resulting smoke collected and analyzed. As yet, not sufficient results have been obtained to draw any conclusions.

STUDIES OF RANCIDITY IN FISH

As mentioned in previous annual reports of this Division, our technological staff has been much interested in the causes and prevention of the development of rancidity in fatty fish. Especially has this been a problem in connection with the cold storage of such oily fish as mackerel. As facilities were available and as time would permit, our technologists worked on this problem. Because of the limitations of our facilities and the size of our staff, very little time could be given to this project and its study was pursued only intermittently and in connection with the study of other research problems which were affected by it.

However, late in 1935, the Musher Foundation of New York City, a privately endowed research agency and technical consulting organization, became much interested in the published reports of our technologists bearing on the problem of rancidity in fish. Since the Musher Foundation had also made considerable study of this problem as related to fish and other foods, arrangements were made for a cooperative investigation in our laboratories and research associates were employed by the Musher Foundation to carry on this work. The first phase of the project has consisted of tests of the value of various cereal flours, such as oat and rice flour, as inhibitors of the development of oxidation or rancidity in fatty foods. These cereal products had already been shown to be of value for preventing or

[3] "An electrometric method for detection of relative freshness of haddock", by Maurice E. Stansby and James M. Lemon.

retarding the development of rancidity in other oil-bearing or fatty foods, such as salted peanuts, potato chips, and others and it was decided to determine whether they also would be effective in the preservation of several fish, including Boston mackerel, Spanish mackerel, haddock, and mullet. W. J. Hart, research associate for the foundation, was stationed in our College Park technological laboratory for conducting this work. Since the experimental work was not begun until the last of the year, it is too early to report any conclusive results. As described elsewhere in this report, Lyle Anderson, another research associate for the foundation, was stationed in our Seattle technological laboratory to make similar tests of these cereal products on fish livers, fish-liver oils, fish meals, and other miscellaneous byproducts.

CHEMISTRY OF FISH PROTEINS

Because little is known regarding the chemistry of proteins in fish and shellfish and because this information is badly needed to add to the general knowledge of the food value of these products, a study of this subject was undertaken during the past year. Accordingly, late in 1935, determinations were started at our College Park laboratory of the four nutritionally important amino acids in some of the commercially important fish and shellfish. The amino acids being thus studied are: Cystine, lysine, histidine, and tryptophane. At the same time, digestibility and metabolism experiments with white rats were inaugurated in our nutrition laboratory at College Park to determine, or to learn more about, the biological value of these proteins simultaneously with the study being conducted on the chemistry of such proteins. Also, arrangements for cooperative research were made with Western Maryland College, Westminster, Md., for participation in that part of the program relative to the study of the chemistry of the proteins. Miss Thelma Chell was employed by the Bureau as a part-time graduate student assistant to aid in this work, and the college donated the services of three undergraduate student assistants as its contribution to the cooperative study. In addition, the college provided, free of charge to the Bureau, laboratory facilities, equipment, and chemicals, and the work is being conducted at Western Maryland College under the supervision of Prof. Samuel B. Schofield, head of the chemistry department.

Considerable difficulty was encountered at first in the determinations of the chemical constituents of the fish proteins as very little work has been done on this problem. It, therefore, became necessary for our technologists to modify existing chemical methods or technique (which have been worked out primarily for amino acid determinations of agricultural foods) so as to make them more adaptable to fish. The development of new technique also has been necessary to a certain extent. Therefore, progress on this project necessarily has been slow. However, many determinations have been made of the four above-mentioned amino acids in cod, haddock, mackerel, and Spanish mackerel, but the work has not progressed yet to a point where definite results can be reported. However, there is reason to believe from the data available, that the protein of fish will supplement the deficiencies in other types of protein.

CANNING AQUATIC FOODS

As discussed in the 1934 report of this Division, our general program of the development of suitable and safe methods of home canning various commercially important fish and shellfish has been continued. During the past year, two reports on this work have been prepared. One is Fisheries' Memorandum S-338, entitled "Home Canning of Fish", by Norman D. Jarvis, assistant technologist, and Dr. Francis P. Griffiths, junior bacteriologist. The other report is entitled "The Home Canning of Fishery Products", by Norman D. Jarvis and Francis P. Griffiths. This latter report was published as Fisheries' Investigational Report No. 34, early in 1936. It contains methods recommended for canning salmon, shad, mackerel, lake trout, whitefish, mullet, clams, shrimp, and various fish specialties.

In addition, experimental packs during 1935 have included clam chowder, clam broth, canned cooked salt mackerel (plain and in tomato sauce), mackerel tuna style, mullet in tomato sauce, concentrated salmon chowder, crab gumbo, and crab creole. With respect to these latter two products, there is still the problem of discoloration when an attempt is made to pack the crab meat straight, that is, without any other ingredients or mixtures. Therefore, attention was devoted to working out formulae and methods for products in which crab meat forms only a portion of the contents and the possibility of discoloration of the finished product is correspondingly reduced. Success in eliminating discoloration of canned crab meat has been found in the development of such canned products as deviled crab, crab gumbo, and crab creole. Prospects seem favorable for developing methods suitable for canning at least two of these products on a commercial scale.

Some experimental packs of razor clams received from New England have been made. From preliminary data, it appears that a canned minced clam of good quality can be prepared from the New England razor clam. This shellfish at present is used only as fish bait.

During the past year, a study was begun of existing commercial methods for canning aquatic products with the view toward bringing up to date in a compact report the best technical information available on the subject. As this report will cover a wide field, the compiling of the data will require considerable time to complete.

During the latter part of 1935, our technologist in charge of experimental canning was detailed to assist the North Carolina Fisheries, Inc., Morehead City, N. C., a cooperative organization of North Carolina fishermen, in constructing and operating equipment in their plant for the handling and preservation of fish. This included assistance in developing methods and equipment for handling fresh fish, the smoking and salting of fish, and the canning of fishery products.

BACTERIOLOGICAL STUDIES

Our bacteriological studies have been closely correlated with other investigations of our technological staff as many of these problems require a knowledge of the action of bacteria. These bacteriological investigations have included examinations of the experimental packs of canned fishery products to determine which processes produce

sterility, studies of the role of bacteria in the different types of decomposition or spoilage described in preceding paragraphs, with special reference to the studies on mackerel, determinations of the effectiveness of formaldehyde and other chemical preservatives in preventing or retarding the development of bacterial spoilage in fishery byproducts, and other miscellaneous bacterial control problems.

BACTERIAL DECOMPOSITION IN FRESH FISH

The growth of bacteria in flesh foods is one of the most difficult to control. It is probable that this type of spoilage is more costly to the fishing industry than that which takes place within the flesh of the sea food and designated as autolytic or chemical. In view of this, the Bureau has conducted bacteriological tests in an effort to retard this type of spoilage. During the year, Dr. F. P. Griffiths, bacteriologist of the Division, cooperated with Dr. James E. Fuller, professor of bacteriology at Massachusetts State College, in an effort to determine the bacterial flora most commonly found in the contamination of market fish and fillets. The results of this investigation indicate that freshly caught fish which were handled according to approved sanitary methods were not contaminated with *Escherichia Coli*, while fish and fillets which were carelessly handled were found to be contaminated by these organisms.

The results further indicate that fillets were more likely to be infected than round or eviscerated fish. This is to be expected since the skin of the fish is not easily penetrated by ordinary bacterial contamination. Bacteria generally enter the flesh of fish through incisions in the skin such as those made by cutting or forking the fish. It is believed that a combination of the test for *Escherichia Coli*, total bacterial count and the chemical test of freshness index, would prove to be highly satisfactory measures of the sanitary quality of fishery products.

The results of this investigation were presented at the American Public Health Association meeting in October 1935, in a report entitled "Detection and Significance of *Escherichia Coli* in Commercial Fish and Fillets", by Francis P. Griffiths and James E. Fuller. This report was published in the American Journal of Public Health, issue of March 1936.

DISINFECTANTS FOR SPONGES

At the request of the sponge industry two student assistants employed by the National Youth Administration were assigned through the courtesy of George Washington University, Washington, D. C., in 1934, to develop a simple and inexpensive disinfectant which could be used for sterilizing sponges after use. This study was carried on during 1935 in the laboratories of George Washington University as a cooperative investigation of this Bureau and that institution. A disinfectant, consisting of a mixture of formaldehyde, phenol, and chlorine solution, has been found to be effective in sterilizing sponges for the purpose described above.

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PHARMACOLOGICAL STUDIES

Because of the increasing importance of the role of some minerals in the metabolism of man and his domestic animals, and because much discussion had appeared in scientific and trade journals concerning the effect of these minerals in human and animal nutrition as they naturally occur in foods such as fishery products and as they occur in organic form, it has become necessary for the Division to conduct investigations in this field. Accordingly, late in 1935, an assistant pharmacologist was appointed to our technological staff; and his work thus far has been in the pioneer development of a new applied science, namely, that of the pharmacology of fishery products. Up to the present, studies have been made of the metabolism of arsenic and copper as they occur naturally in fish and shellfish. As a result of this work, a report was published in the Journal of Nutrition, vol. 10, no. 3, September 1935, entitled "Metabolism in the Rat of the Naturally Occurring Arsenic of Shimp as Compared with Arsenic Trioxide", by E. J. Coulson, assistant pharmacologist, United States Bureau of Fisheries, and Dr. Roe E. Remington and Dr. Kenneth M. Lynch, Medical College of the State of South Carolina, Charleston, S. C.

Investigations of the characteristics of the organic arsenic compound of shimp, including actual feeding tests with both rats and with man, have shown that this compound is very readily absorbed from the gastrointestinal tract, but it is rapidly and almost completely eliminated by the kidneys. Control tests using inorganic arsenic in the form of arsenic trioxide, indicate that this form of arsenic, on the other hand, is absorbed and stored.

The retention of the inorganic arsenic compound was as high as 80 percent during the initial period of feeding. A study of the chemical characteristics of the arsenic compound of shrimp has shown that it is a very stable compound in which the arsenic atom is not ionized. In other words, the arsenic is not in an active state. Thus the arsenic compound of shrimp closely resembles the organic arsenic derivatives of the fatty series which are said to be so stable as to lack something of the therapeutic activity shown by the more dynamic compounds derived from the benzene series, such as atoxyl and salvarsan. The arsenic compound from shimp is soluble in water and readily diffuses through a collodion membrane. It is also soluble in ethyl alcohol and methyl alcohol but insoluble in ether, acetone, and chloroform. The stable, undissociated characteristic of the organic arsenic compound of shrimp and its ready solubility in water, without doubt, account for the rapidity with which it is eliminated from the body.

Thus, there need be no fear of any cumulative toxicity resulting from the organic arsenic as it occurs in shrimp. While the subject has not yet been investigated, it would appear that similar results might be expected from the organic arsenic of other fish and shellfish.

Like studies on the effect of feeding organic copper in the form of "coppery green" oysters have yielded similar results.

This new field of the pharmacology of fishery products promises to yield interesting and important results in future years and in one aspect is closely related to the role of mineral elements in human and animal nutrition. It is no longer safe to evaluate the relative metabolism or assimilability of the mineral content of foods by chemical analyses alone.

PRESERVATION OF FISHERY BYPRODUCTS

The demand for information on the economic utilization of fishery waste materials is increasing. For this reason during 1935, our technologists continued an active investigational program on the preservation of fishery byproducts. Some of these projects were conducted in the Seattle technological laboratory under the direction of R. W. Harrison, associate technologist in charge of that laboratory, with the assistance of A. W. Anderson, assistant technologist, and Lyle Anderson, research associate appointed by the Musher Foundation. Other byproducts investigations were carried on in the Gloucester laboratory and later in the Bureau's College Park laboratory under the supervision of J. M. Lemon, in charge of that laboratory, by S. R. Pottinger, junior technologist, and George Tarrant, Harold E. Crowther, and Joseph F. Puncochar, research associates appointed by L. T. Hopkinson, Washington, D. C. Mr. Tarrant has chemical training and Messrs. Crowther and Puncochar are bacteriologists. These various investigations are described in succeeding paragraphs.

UTILIZATION OF SALMON CANNERY WASTE

Approximately 200,000,000 pounds of salmon waste are at present discarded each year. Complete utilization of this material would provide the basis for an industry which would manufacture products having a value exceeding $1,000,000 annually.

In the past, numerous attempts have been made toward utilization of this material but in only a very few cases were the efforts successful. Many of these failures can be attributed to a lack of understanding of the reduction problem as required by salmon waste and also to a lack of appreciation of the potential value of salmon byproducts. Nevertheless a psychological state of mind has arisen which has retarded further attempts of development on the part of the industry.

Realizing the great benefit the United States and Alaska would derive from an industry of the magnitude indicated by the amount of salmon waste material available and appreciating the effects of past experiences of the industry, the Bureau has continued its investigation of the problem with considerable deliberation and caution, in order to assure a sound basis for future development.

In this connection our technologists have endeavored to investigate those phases of the reduction problem which caused difficulty in the past, have worked on methods for overcoming these obstacles, and are continuing a comprehensive study of the potential value of the manufactured products which may be expected as a result of proper operating methods.

In our last report information was given with respect to the distribution of fat and vitamins in salmon waste, the potential value of each species and progress on specific specialized products. These data have provided the industry with certain fundamental facts concerning the relationship of the nature of the raw material to the quality of the products to be obtained, as well as a guide to the possibilities and limitations of specialized operations.

Subsequent investigation has dealt largely with the reduction process and its relationship to the efficiency of salmon waste utilization.

These studies have indicated that effective cooking can be accomplished without detriment to vitamins in the oil, have established the feasibility of screening and mechanically separating salmon press liquors, and have demonstrated means of improving both oil recovery and the vitamin potency of the oil.

At the present time, attention is being given to a study of the retention of vitamins A and D in the oil in salmon meal. If methods can be developed whereby the fat in the meal can be prevented from becoming rancid, and vitamin A and D values retained during storage, it would be entirely possible to produce salmon meals which would carry sufficient vitamin A and D unitage to preclude the necessity of adding any further supplement of these vitamins to the diet. Meals of this type would be expected to carry a higher vitamin G value also and would thus be of unusual value in poultry feeding. All such work on fish meal also is valuable in rendering this product more suitable for feeding fish reared in hatcheries.

MANUFACTURE AND NUTRITIVE VALUE OF NONOILY FISH MEALS

Previous issues of this publication have carried progress reports of an extended investigation dealing with the manufacture of fish meal from nonoily fish waste and the effect of manufacture on the composition and nutritive properties of these meals. During the past year the assembled data were incorporated in report form and published in the Investigational Report series of the Bureau. Since these papers are now available to the public, interested persons are referred to the following publications obtainable from the Government Printing Office: Fisheries' Investigational Report No. 30, entitled "Effect of Manufacture on the Quality of Nonoily Fish Meals"; Fisheries' Investigational Report No. 31, entitled "Effect of Method of Manufacture on the Composition of Haddock Fish-Meal Proteins"; and Fisheries' Investigational Report No. 32, entitled "Studies on Drying Cod and Haddock Waste."

PREPARATION OF AUTHENTIC HALIBUT-LIVER OIL SAMPLES

During the year, the Bureau was asked by the Food and Drug Administration and the Bureau of Chemistry and Soils to prepare a number of authentic halibut-liver oil samples extracted from livers of halibut taken in different localities at intervals throughout the fishing season. The work was arranged and carried out through our Seattle technological laboratory

Eight liver samples were taken from an area bounded on the south by Cape Shoalwater, on Willapa Harbor, and on the north by Cape Spencer, in Southeastern Alaska, designated as area 2 by the International Fisheries Commission. Ten samples were taken from area 3, the area between Cape Spencer and Cape Sagak in the Aleutian Islands and two samples from the small area south of area 2.

The livers from area 2 varied in fat content, as indicated by ether extraction of samples of liver which had been desiccated under reduced pressure, from 22 to 42 percent, the majority being around 30 percent. Samples were taken at intervals between July and November, inclusive. The livers from area 3 varied in fat content as determined above between 13 and 31 percent. Sampling extended

from July to January 1, 1936. The two remaining samples contained 14 percent and 25 percent fat.

Although not consistent, the data indicate that halibut livers increase in fat content from summer to mid-fall and then decrease to the close of the season in November or December. Preliminary data on samples of oil tested in the laboratory indicate variation in certain chemical constants and vitamin A values ranging through wide limits. A more complete study is being made.

EXTRACTION OF OIL FROM HALIBUT LIVERS

Halibut livers do not give up oil by simple heat treatment, as do the livers of cod and related fish. For this reason, solvent extraction was used in the first stages of the industry's development. During the past 3 or 4 years, the several manufacturers of halibut-liver oil have developed effective methods of oil extraction without recourse to solvents, with a resultant improvement in the quality and appearance of the oil.

In order that the oils referred to in the preceding section would be representative of the grade of oil entering commerce at the present time our technologists were required to give considerable attention to methods of extraction. Most effective and rapid results were obtained by first disintegrating the livers mechanically without emulsification, autoclaving for a short time in an acid medium to break down further the liver tissue, making the solution slightly alkaline, and reheating for a short period and centrifuging.

The livers were found to vary considerably in physical condition and consequently with ease of extraction. For this reason further discussion of the experimental procedures used and their efficacy will be reserved for our regular report series where they can be discussed in detail at the completion of the investigation.

VARIATION IN THE FAT CONTENT OF HALIBUT

On several occasions during the past year the bellies of halibut held for storage were observed to become bluish and more or less mottled in appearance when frozen. Such fish were considered unmarketable by the trade since the bellies of frozen halibut are expected to be unblemished white in color.

Specimens of such fish were submitted for the attention of the technologists in our Seattle laboratory, and it was found that the discolored appearance was due to the belly skin becoming more or less transparent when the fish were frozen. This resulted in the flesh immediately beneath the skin showing through. Upon further examination and laboratory tests the fish were found to be particularly lean with practically no fat storage adjacent to the belly skin as is the case in a normal fish.

Since this extreme variation in fat content had resulted in marketing losses and has possible relation to the biological work of the International Fisheries Commission in the study and regulation of the halibut fishery, our Seattle technological laboratory began an investigation of this problem in cooperation with the commission. Periodic samples of small, medium, and large halibut have been taken at intervals throughout the season, from the various halibut

grounds and are being examined for fat content. Sufficient data are not as yet available to warrant discussion at this time.

FISH FOOD FACTORY

As mentioned previously in this report the increasing costs of animal livers, hearts, spleens, and other slaughter wastes used as fish foods has given rise to a financial problem in hatchery operation. During the past year the Bureau's Division of Fish Culture became interested in the possibility of preparing supplemental dried food from spent salmon after egg taking, which would permit a reduction in raw food requirements. In this connection, the technologists in our Seattle laboratory were called upon to cooperate in designing and preparing specifications for a factory which was installed at the Bureau's Quilcene, Wash., hatchery. This was operated during the past egg-taking season and handled in a satisfactory manner the prescribed amount of approximately 1½ tons of raw fish per day. The output of the factory is being used regularly in the ration of fish reared at various Bureau hatcheries at a considerable saving to the Bureau for fish foods.

RANCIDITY STUDIES OF HALIBUT LIVERS, LIVER OILS, AND OTHER FISHERY BYPRODUCTS

Beginning November 1, 1935, the Musher Foundation, Inc., of New York, appointed a research associate in our Seattle laboratory, for the purpose of studying the prevention of rancidity and general deterioration of fish-liver oils, fish oils, and other fishery byproducts by the treatment or incorporation of especially prepared cereal flours for which the foundation holds patents. The laboratory work which is being done by a graduate student of the University of Washington under the direction of the technologist in charge of the laboratory, has not yet reached the stage where any conclusions can be drawn.

CHEMICAL PRESERVATION OF FISH WASTE

Fish waste and waste fish, usually resulting from the operation of fishery industries primarily engaged in the manufacture, preparation, and preservation of various edible fishery products for food, have in many cases gone unutilized and sometimes also have presented a disposal problem because not enough of the trimmings or waste would be available to justify the cost of installation and operation of suitable byproducts equipment for converting this raw material into such useful commodities as fish meal, fish oil, etc. In view of this, much interest is being shown in the possibilities of partially or temporarily preserving this waste until it can be collected at a central point for mechanical reduction into meal, oil, and other byproducts. Therefore, late in 1935, a cooperative investigation of the value of certain chemicals in the preservation of fish waste was undertaken by our technologists in our College Park laboratory with L. T. Hopkinson, Washington, D. C., who had developed certain methods for the application of these chemicals on board ships. Accordingly, three research associates were employed by Mr. Hopkinson to carry on this project under the general supervision of our technological

staff. These research associates are: George E. Tarrant, chemist, and Harold E. Crowther, Joseph F. Puncochar, bacteriologists. Chemical data are being obtained to determine the effectiveness of the chemicals being studied and their chemical reactions on the protein and other ingredients of the fish waste and bacteriological studies are being undertaken to determine the effectiveness of these chemicals and in preventing or retarding bacterial spoilage.

Among the chemicals which have been studied thus far are formaldehyde and acetaldehyde. This work has not progressed to a point yet where any definite results can be reported. The effect of chemical preservation on the feeding value of fishery byproducts is being tested with farm animals at the Virginia State Agricultural Experiment Station, Blacksburg, Va., and with experimental animals in our nutrition laboratory at College Park, Md.

NUTRITIVE VALUE OF AQUATIC PRODUCTS

Since a large part of our technological investigations is devoted to food research, studies of the various nutrition or food factors in aquatic products are an essential and important part of our investigative program. In fact this phase of our program must be closely coordinated with other technological investigations as the relative nutritive value of experimentally prepared and preserved fishery products is the only true yardstick or standard of measurement for evaluating improvements in methods of manufacture, preservation, handling, and storage of such products.

During 1935 our nutrition investigations were carried on in our College Park laboratory, in the laboratories of the State Medical College, Charleston, S. C., and in the laboratories of the Massachusetts State College, by Charles F. Lee, E. J. Coulson, and Dr. Francis P. Griffiths, of the technological staff, and by student assistants.

FISH-LIVER OILS

Most of the work in our nutrition laboratory at College Park, Md., consisted of studies of the content of vitamins A and D in experimentally prepared fish-liver oils forwarded from other technological laboratories of the Bureau. These liver oils consisted of halibut, swordfish, haddock, and salmon. Several series of samples of oils from cooked and uncooked swordfish livers were examined to determine the effect of different solvents, used in extracting the oils from the livers, on the vitamin potency of the extracted oils. It was found that such solvents as petroleum ether, ethyl ether, and ethylene dichloride, produced the best oils.

The tests of the effect of these solvents on the vitamin potency of extracted oil proved to be very accurate because in three cases where livers were extracted several times with the same solvent, the oils derived from each fraction were identical in vitamin content.

Twenty-three samples of salmon oils prepared by our temporary technological laboratory in Alaska during the summer of 1934 were studied for their content of vitamins A and D. Tests also were made on 13 salmon oils, being used at the same time in poultry feeding tests in Washington State College in a cooperative project with this Bureau. These salmon oils varied over a wide range in vitamin potency from 120 to about 900 international vitamin A units per

gram for the oils prepared in Alaska and from 110 to 2,400 international vitamin A units per gram for the oils in the group from Washington State College. The vitamin D potency of the oils in both groups ranged from 40 to 120 international vitamin D units per gram. This average was somewhat lower than the vitamin potency reported for salmon oils previously tested and reported in previous annual reports of this Division.

As described previously in this report, the Bureau's technologists, during 1935, began a cooperative study of halibut-liver oils at the request of the Bureau of Chemistry and Soils and the Food and Drug Administration of the United States Department of Agriculture. Chemists of both of these Bureaus are working with our technologists, and the purpose is to standardize the production and testing of halibut-liver oil so that authentic samples may be available for control work in administering the food and drug laws.

Therefore, our nutrition laboratory determined the content of vitamins A and D in eight samples of halibut-liver oil experimentally prepared by our Seattle laboratory in connection with this cooperative project. It is expected that it will be necessary to assay about 20 halibut-liver oil samples to complete the study. Incomplete tests on the first eight halibut-liver oil samples show considerable variation in vitamin A content with the highest sample running about 90,000 international vitamin A units per gram and other samples ranging down to less than 30,000 units. Vitamin D potencies of these oils ranged from 2,000 to 3,000 international units per gram.

The investigation of the chemical and physical properties and vitamin potency of haddock-liver oil begun in 1934 was completed during the past year. The results of this study were published in Fisheries' Investigational Report No. 27, entitled "Chemical and Physical Properties of Haddock-liver Oil and Its Vitamin Content." In brief, this study indicated that the U. S. P. requirements should be changed as to haddock-liver oil if this oil is to be included in cod-liver oil along with the liver oils from other members of the family Gadidae.

MENHADEN OIL FOR POULTRY FEEDING

In cooperation with the chemistry department of the University of Maryland, an investigation was undertaken to determine the possibility of using menhaden fish oil in poultry feeding. Menhaden fish oil is produced by one of our large domestic fishery industries in factories along our Atlantic coast. Several samples of menhaden oils from various factories were tested for vitamin D content on white rats and also on baby chicks. These oils, although not especially prepared to preserve their vitamin potency, were with few exceptions equal to cod-liver oil in vitamin D content and, therefore, are of great value in poultry nutrition. Such oil now goes into the soap kettle and into other industrial uses. A report on these tests entitled "Menhaden Oils as an Antirachitic Supplement for Poultry", by W. C. Supplee and Charles F. Lee, has been published as Bulletin No. 389 of the University of Maryland Agricultural Experiment Station.

MENHADEN FISH MEAL IN CATTLE FEEDING

In a cooperative arrangement with the Bureau, the dairy department of the Maryland State Agricultural Experiment Station began,

in 1934, an investigation of the value of menhaden fish meal in the feeding of calves and yearling heifers. Menhaden fish meals, prepared according to different methods of manufacture, have been obtained for this test from various factories. Results thus far have indicated that both flame-dried and steam-dried menhaden meals are valuable ingredients in the dairy ration. A full report on this work will be published by the Maryland State Agricultural Experiment Station and this Bureau in the Journal of Dairy Science.

STUDIES OF THE CHEMISTRY AND NUTRITIVE VALUE OF FISH PROTEINS

As discussed in a previous section of this report, our College Park laboratory, late in 1935, began a study of the constituents of fish proteins. This project not only includes a determination of the nutritionally important amino acids in the proteins of various species of fish and shellfish, but also digestibility and metabolism studies have been begun in our nutrition laboratory to determine the biological value of these proteins. As indicated previously, this work has not progressed to a point where any results can be reported.

NUTRITIVE VALUE OF MACKEREL

A preliminary study of the nutritive value of the edible portion of mackerel was made during 1935 by William H. Conway, Jr., in the food products laboratory of the Massachusetts State College, Amherst, Mass., in cooperation with our technological staff. This work was supervised jointly by Dr. C. R. Fellers, of Massachusetts State College, and Dr. F. P. Griffiths, of the technological staff. Mr. Conway, a student assistant, was assigned to this study by the National Youth Administration through the courtesy of the Massachusetts State College. The results of this investigation are reported in a thesis entitled "Studies on the Nutritive Value of Mackerel", by William H. Conway, Jr., and submitted to the college. It was found that mackerel is a good source of protein and that mackerel flesh is a fair source of vitamins A and D, although not quite as good a source of these vitamins as some other fish.

MINERAL CONSTITUENTS IN FISHERY PRODUCTS AND BYPRODUCTS

During 1935, E. J. Coulson, of our technological staff, stationed in the laboratories of the State Medical College, Charleston, S. C., continued his study of the mineral constituents in various fishery products and byproducts. This work not only included chemical determinations of the amount of these various mineral constituents in the different products studied, but also included tests of the nutritive value of these minerals with experimental animals. Determinations of the iodine content of most of the important products were completed and the results were published in Fisheries' Investigational Report No. 25, entitled "The Iodine Content of Some American Fishery Products." This report contains determinations of the iodine content of about 25 kinds of fishery products.

Studies of the iodine of haddock flesh and oysters, as compared with the iodine of milk and iodine in the inorganic form of potassium iodide

indicated that the iodine from these various sources was equally assimilable and that the effectiveness of iodine from these sources, when fed at minimum effective doses, was about equal in the prevention of goiter in the white rat, the experimental animal utilized in these tests.

Determinations of other mineral constituents in fishery products, such as calcium, phosphorus, iron, copper, etc., are being made as rapidly as possible, and it is hoped that enough data will be available for publication in 1936. Other chemical and biochemical studies of these mineral constituents are discussed in a preceding section of this report under "Pharmacological studies."

FISH COOKERY STUDIES

Our fish cookery laboratory continued the development and testing of recipes for various fishery products begun in 1934. The cookbook, referred to in previous reports of the Division, was completed and published as Fishery Circular No. 19, entitled "Practical Fish Cookery", by Agnes I. Webster and W. T. Conn. The demand for this cook book has exceeded the supply. However, through the cooperation of the Fish and Seafood Institute of the United States, over 60,000 copies have been distributed, mainly to home economics workers in schools and colleges. In addition to this work, our fish cookery expert carried on educational work and practical demonstrations in the preparation and cooking of fish and shellfish in cooperation with home economics workers in various cities. During the latter part of 1935, she was detailed to cooperate with R. H. Sullivan, of the Massachusetts State Department of Agriculture, in carrying on demonstrations in fish cookery and giving educational talks on the nutritive value of fish at schools, women's clubs, and various other gatherings in the State of Massachusetts.

In cooperation with the manager of the large cafeteria in the Department of Commerce Building in Washington, seafood dishes, popular in many public eating places, were prepared on a large scale and sold through the cafeteria under such an arrangement that constructive criticisms and suggestions were received from patrons. From this test, it was possible to obtain a wide popular reaction to the results of the Bureau's fish cookery work. Much favorable comment was received from this test and the cafeteria manager reported that it had stimulated sales of fish and shellfish dishes. As the result of this practical test and other laboratory tests of recipes on a large scale, a mimeographed pamphlet or cookbook was issued by the Bureau of Fisheries as Special Memorandum 3216, entitled "Cooking Fish For One Hundred", by W. T. Conn, technologist.

RESEARCH ASSOCIATES AND STUDENT ASSISTANTS

Because of the relatively small size of the Bureau's technological staff and the rather broad field of research it must cover, it is only possible to undertake those problems which are of a fundamental nature and which promise to be of the greatest value to the largest number of persons (whose livelihood depends in whole or in part on the fisheries), and which are possible with the funds and personnel

available. For this reason, the Division cannot, with present facilities, attack problems of special or restricted interest affecting certain products, processes, methods, or industries. However, the Bureau has available, by congressional authorization and under an arrangement similar to that of other scientific Government bureaus, facilities for research associates and student assistants in its laboratories. The salaries and expenses of these employees are paid by the firms or groups who are interested in the problems on which they are working and the investigations are carried out under the supervision of the Bureau's technologists in its laboratories and under its control. Thus the Bureau provides these industries and groups with laboratory, consulting, and library facilities which, in most instances, cannot be obtained elsewhere.

Within the limits of its facilities, the Bureau also has opened its technological laboratories to research students who are pursuing courses in universities and who are selecting investigational problems in the fisheries as their major study. This may prove of special benefit to the industry as it brings its problems to the attention of a large group of research workers who in turn may spread interest to applied fishery research.

The following research associates and student assistants carried on investigations under the supervision of our technological staff during the past year. The details of these problems have been described in the preceding pages.

In the Seattle technological laboratory, Lyle Anderson, research associate employed by the Musher Foundation, Inc., New York City, working on the problem of rancidity in fish livers, oils, and meals; Myron Thurman and Richard Crosby, student assistants, provided by the National Youth Administration, through the University of Washington.

In the College Park laboratory, W. J. Hart, research associate, employed by the Musher Foundation, Inc., New York City, working on the problem of rancidity in fatty fish; George Tarrant, Harold E. Crowther, and Joseph F. Puncochar, research associates, employed by L. T. Hopkinson, Washington, D. C., working on problems in the chemical preservation of fishery byproducts; William B. Lanham, Jr., Hillman C. Harris, and Willis H. Baldwin, part-time graduate student assistants, employed by the Bureau of Fisheries and working on problems in the chemistry and metabolism of fish proteins; James W. McCurley, Roscoe Dwiggins, Robert D. Nichols, G. E. Linthicum, Amiel Kirshbaum, Raymond N. Miskimon, George W. Dorr, H. H. Hemsley, C. R. Langmaid, George W. Knepley, Walter Schauffele, Wade Wood, Ned Oakley, Abraham Scop, A. N. Chumbris, K. Krulevitz, Edward J. Kennedy, John Webster, and T. M. Scharf, student assistants provided by the National Youth Administration through the University of Maryland.

In the laboratory of the State Medical College at Charleston, S. C., Cecil Leroy Smith, chemist, provided by the Works Progress Administration through the State Medical College and assisting Mr. Coulson of our technological staff in studies of the pharmacology and nutritive value of mineral constituents in fishery products.

At George Washington University, Washington, D. C., William H. Conway and William J. P. Howard, senior medical students provided by the National Youth Administration through the university and working on the problem of the development of disinfectants for sponges for household use.

At Western Maryland College, Westminster, Md., Miss Thelma Chell, graduate student assistant, employed part time by the Bureau of Fisheries and studying the chemistry of fish proteins; William F. Coleman, Miss Helen H. Frey, and Miss Louella H. Mead, student assistants provided by the National Youth Administration through Western Maryland College and assisting Miss Chell in her study of fish proteins.

During the first half of 1935 while the Division was maintaining a technological laboratory at Gloucester, Mass., the Bureau obtained from Northeastern University, Boston, Mass., for work in the Gloucester laboratory, Donald A. Bean and Richard M. Locke, student assistants, who spent alternately 5 weeks in the university pursuing the regular school curriculum and 5 weeks in our laboratory aiding in the conduct of research problems pertaining to fish preservation and spoilage.

At Massachusetts State College, Amherst, Mass., William H. Conway, Jr., student assistant provided by the National Youth Administration through the college and working on the study of the nutritive value of mackerel.

EDUCATIONAL AND CONSULTING SERVICES

In addition to the activities described in this report, our economic and technological staffs conduct an educational and consulting service for those interested in the fisheries. Some of these functions and services have been discussed or referred to in previous paragraphs of the report. In addition, various members of the staff have conducted lectures and practical demonstrations relative to the fisheries and the fishery industries at various State educational institutions and at public gatherings of various sorts. Also, members of the staff deliver radio addresses on various fishery subjects from time to time. The Bureau or the Division also answered many thousands of letters on fishery subjects and has supplied information to persons who have called at the Bureau, personally. Many of the latter have come from foreign lands to seek information on the conduct of the fishery industries in the United States, which might be useful in the more orderly conduct of the fisheries of their native lands.

FISHERY SCHOOLS OF INSTRUCTION

During the months of January, February, and March 1935, the division of markets of the Massachusetts State Department of Agriculture conducted schools of instruction in handling fish. The members of the staff of the Gloucester, Mass., technological laboratory cooperated with the State officials in this work. These schools were designed particularly for the instruction of the retail dealers of fishery products in the latest methods of sanitation and handling of these products. There were also included suggestions as to attractive methods of displaying and cooking the various species of fish and shell-

fish. The courses of instruction were conducted semiweekly in widely separated cities throughout the State. Considerable interest was shown by the industry and it is believed that the benefits derived were more than adequate to compensate for the effort.

PUBLICATIONS OF THE DIVISION

During the calendar year 1935 the following publications were prepared and addresses delivered by members of the Division's staff. These do not include the monthly statistical bulletins of the landings of fishery products at Boston and Gloucester, Mass., Portland, Maine, and Seattle, Wash., nor the monthly reports on cold-storage holdings of frozen fish and quantities of fish frozen. The fishery reports and circulars may be purchased at the prices shown from the Superintendent of Documents, Government Printing Office, Washington, D. C. The statistical bulletins and special or S-memoranda are distributed free of charge upon request to the Bureau. The special articles may be obtained from the sources of publication.

Those wishing to receive current copies of this report and statistical bulletins issued by the Bureau should request that their names be placed on the Bureau's mailing lists nos. 128 for the annual statistical report, 128a for general statistical bulletins, and 128b for monthly cold-storage reports. Those desiring historical statistical data on the domestic fisheries for the period 1880 to 1929 should consult the report entitled "Fishery Industries of the United States, 1930", by R. H. Fiedler, Appendix II to the Report of the United States Commissioner of Fisheries for the Fiscal Year 1931. Statistical information for the years 1930 to 1933, inclusive, may be obtained from the annual reports of the Division for the years 1931 to 1934, inclusive.

DOCUMENTS, REPORTS, AND CIRCULARS

Anderson, Andrew W., Roger W. Harrison, and S. R. Pottinger.
Studies on drying cod and haddock waste. 8°, 41 pp., 7 figs. Investigational Report No. 32. 5 cents.

Coulson, E. J.
The iodine content of some American fishery products. 8°, 7 pp. Investigational Report No. 25. 5 cents.

Fiedler, R. H.
Fishery industries of the United States, 1934. 8°, 330 pp. Appendix II to Report of Commissioner of Fisheries, 1935. 20 cents.

Harrison, Roger, W., S. R. Pottinger, Charles F. Lee, and Andrew W. Anderson.
Studies on the utilization of swordfish livers. 8°, 10 pp., 3 figs. Investigational Report No. 28. 5 cents.

Harrison, Roger W., Andrew W. Anderson, and S. R. Pottinger.
Effect of manufacture on the quality of nonoily fish meals. 8°, 30 pp. Investigational Report No. 30. 5 cents.

Jarvis, Norman D.
Fishery for red snappers and groupers in the Gulf of Mexico. 8°, 29 pp., 4 figs. Investigational Report No. 26. 5 cents.

Pottinger, S. R., Charles F. Lee, Chester D. Tolle, and Roger W. Harrison.
Chemical and physical properties of haddock-liver oil and its vitamin content. 8°, 16 pp., 6 figs. Investigational Report No. 27. 5 cents.

Pottinger, S. R., Roger W. Harrison, and Andrew W. Anderson.
Effect of method of manufacture on the composition of haddock fish-meal proteins. 8°, 14 pp., 1 fig. Investigational Report No. 31. 5 cents.

Webster, Agnes I., and W. T. Conn.
Practical fish cookery. 8°, 26 pp. Fishery Circular No. 19. 5 cents.

SPECIAL ARTICLES AND ADDRESSES

Conn, W. T.

Cooking fish for one hundred. Bureau of Fisheries' Special Memorandum 3216.

Florida fish on the table. Address before the Women's Institute at the Florida State College for Women, June 19, 1935, Tallahassee, Fla.

Acres of diamonds. Address at the annual meeting of the Florida Fisheries Association, June 24, 1935. Orlando, Fla.

Problems of the Florida fishermen. Address at the State Convention of the Union Fishermen of Florida, Dec. 10, 1935. Sarasota, Fla.

The natural craving for seafood. Radio address delivered over Station WJAX, Dec. 16, 1935. Jacksonville, Fla.

Coulson, E. J.

The elimination of arsenic from shrimp, and inorganic arsenic in man and in the rat. Address before the Chemistry Section, South Carolina Academy of Science, Columbia, S. C., April 6, 1935. Abstracted in Bulletin of the South Carolina Academy of Science, vol. 1, 1935.

Associate referee's report on copper. Address before the General Section of the Association of Official Agricultural Chemists, Washington, D. C., November 11, 1935.

Coulson, E. J., Roe E. Remington, and Kenneth M. Lynch.

Metabolism in the rat of the naturally occurring arsenic of shrimp as compared with arsenic trioxide. Address before the Biological Chemistry Section, American Chemical Society, New York, April 22, 1935. Published in Journal of Nutrition, September 1935, Springfield, Ill. Bureau of Fisheries' Special Memorandum 2525.

Fiedler, R. H.

Nutritive value of fish. Address before Parent-Teacher's Association, Somerset, Maryland, February 5, 1935.

Activities of the Bureau of Fisheries. Address before the Washington Branch, American Business Club, Washington, D. C., February 13, 1935.

Marketing fish. Address before United Commercial Fishermen's Association of New Jersey. Atlantic City, N. J. February 23, 1935.

Some fundamental needs of the commercial fishery industry. Address before the National Planning Council of Fish and Game Commissioners, Chicago, Ill., April 10, 1935. Published as Bureau of Fisheries' Special Memorandum No. 2233–B., Washington, D. C.

Work of Bureau of Fisheries relative to commercial fisheries of Chesapeake Bay. Address before Tri-State Seafood Association, Ocean City, Md., August 17, 1935.

Work of Bureau of Fisheries relative to fishery trade in New York City. Address before Middle-Atlantic Fisheries Association, New York City, October 4, 1935.

Fiedler, R. H., and V. J. Samson.

Survey of fish hatchery foods and feeding practices. Bureau of Fisheries' Special Memorandum No. 2526, Washington, D. C. Also published in Transactions of the American Fisheries Society, vol. 65, 1935. Washington, D. C.

Griffiths, Francis P.

Methods for making bacterial counts in fish. Address before Junior Class in Bacteriology, Massachusetts State College, Amherst, Mass., February 15, 1935.

Preservation of fishery products. Address to Junior-Senior Class in Food Preservation, Massachusetts State College, Amherst, Mass., March 19, 1935.

Significance of oxidation and reduction potentials in bacteriological studies. Address before Bacteriological Graduate Seminar, Massachusetts State College, Amherst, Mass., April 15, 1935.

Harrison, Roger W.

Some developments in markets for byproducts during the past year. Fishing Gazette, Annual Review Number, 1935, New York City, p. 92.

Jarvis, Norman D.

Home canning of fish. Bureau of Fisheries' Mem. S–338.

Utilization of salmon eggs. Bureau of Fisheries' Special Memorandum 1487–A.

Johnson, Fred F.

Per capita consumption of fish only 13.3 lbs. Bureau of Fisheries' Special Memorandum 2127–F.

LEMON, J. M.
The value of chemical research to the fisheries. Address delivered before the Northeastern University Chemists Club, Northeastern University, Boston, Mass., April 18, 1935.
MANNING, J. R.
To increase fish consumption. Fishing Gazette, Annual Review Number, 1935, New York City, p. 53.
RICH, WALTER H.
The horse mackerel (tuna) fishery of Maine. Bureau of Fisheries Mem. S–339.
STANSBY, MAURICE E.
Analysis of fish—Tests for the condition of the oil of fish flesh. Published in Journal of the Association of Official Agricultural Chemists, vol. 18, pp. 616–621, November 1935.
STANSBY, MAURICE E., and FRANCIS P. GRIFFITHS.
Carbon dioxide in handling fresh fish—haddock. Industrial and Engineering Chemistry, vol. 27, p. 1452, December 1935. Bureau of Fisheries Special Memorandum 1741.
WEBSTER, AGNES I.
Reaching the consumer. Fishing Gazette, Annual Review Number, 1935, New York City, p. 54.

STATISTICAL BULLETINS

Fisheries of the New England States, 1933. Statistical Bulletin No. 1123.
Fisheries of the Middle Atlantic States, 1933. Statistical Bulletin No. 1116.
Fisheries of the Chesapeake Bay States, 1933. Statistical Bulletin No. 1114.
Fisheries of the Pacific Coast States, 1933. Statistical Bulletin No. 1127.
Fisheries of the United States and Alaska. Statistical Bulletin No. 1126.
Manufactured fishery products of the United States and Alaska. Statistical Bulletin No. 1128.
Fishery products frozen and cold-storage holdings of frozen and cured fishery products in the United States and Alaska, 1934. Statistical Bulletin No. 1117.
Production of fresh and frozen packaged fish in the United States, 1934. Statistical Bulletin No. 1138.
Canned fishery products and byproducts of the United States and Alaska, 1934. Statistical Bulletin No. 1133.
Fisheries of Alaska, 1934. Statistical Bulletin No. 1134.
Landings by fishing vessels at the three principal New England ports, 1934—by months. Statistical Bulletin No. 1120.
Landings by fishing vessels at the three principal New England ports, 1934—by gear and fishing grounds. Statistical Bulletin No. 1121.
Fishery products landed by United States fishing vessels at Seattle, Wash., 1934. Statistical Bulletin No. 1132.

Part 2. FISHERY STATISTICS, 1934

GENERAL REVIEW

Based upon available statistics for 1934, there was a large increase in the catch of fishery products in the United States and Alaska as compared with the preceding year. Statistics of the catch were collected for both 1933 and 1934 in the Chesapeake, Pacific, and Lake States and in Alaska, and when considering the combined catch of these sections alone, an increase of 50 percent in the volume and 33 percent in the value of the catch is indicated. While these increases are reflected in each of the four geographical sections and in many species, they are especially important in increased catches of pilchard, mackerel, and tuna and tunalike fishes in California. The value of the production of canned fishery products in all sections increased 34 percent as compared with 1933; byproducts increased 29 percent; and frozen fish about 50 percent. The value of the production of packaged fish also increased.

The total catch of fishery products in the United States and Alaska as based on the most recent surveys, amounted to 3,950,779,000 pounds, valued at $74,163,000. About 123,000 fishermen were employed in making this catch.

In 1934 in the United States and Alaska, the production of canned fishery products amounted to 700,157,272 pounds, valued at $80,-021,342; the output of byproducts was valued at $22,608,219; and the production of frozen fishery products, excluding packaged products, amounted to 97,290,184 pounds, estimated to be valued at $8,500,000. Based on the most recent surveys the production of cured fishery products amounted to 98,141,332 pounds, valued at $13,047,069, and fresh and frozen packaged fish and shellfish 150,-592,819 pounds, valued at $20,678,362. It is estimated that about 650,000,000 pounds of fresh fishery products (excluding packaged fish and shellfish), valued at about $52,000,000 were marketed during 1934. The total marketed value to domestic primary handlers of all fishery products in 1934 is estimated at nearly $200,000,000.

Fishery products imported for consumption were valued at $30,789,995 and domestic exports were valued at $13,821,781.

New England States.—No survey for the entire catch of fishery products in these States was made for 1934. In 1933 the volume of the catch showed an increase over the preceding year, but the value decreased. There were increases in both the volume and value of the combined landings of fishery products by vessels at Boston and Gloucester, Mass., and Portland, Maine, during 1934, and there were large increases in the production of Maine sardines, and frozen fish.

Middle Atlantic States.—No survey for the catch of fishery products in these States was made for 1934. In 1933 there was an increase in both volume and value of the catch as compared with the preceding year. There was an increase in the production of frozen fish during 1934 but a small decrease in the catch of shad in the Hudson River.

Chesapeake Bay States.—In 1934 the catch of fishery products in the Chesapeake Bay States increased as compared with the catch in 1933. The value of menhaden products which are produced in Virginia increased appreciably, however, the catch of shad in the Potomac River decreased sharply.

South Atlantic and Gulf States.—The catch of fishery products in the South Atlantic and Gulf States during 1934 showed a large increase in both volume and value over 1932 when the first preceding survey of the catch was made. There also were increases in the output of canned oysters and shrimp.

Pacific Coast States.—Statistics of the Pacific Coast States for 1934 show the largest volume of catch of fishery products of any year on record and the value was the largest since 1930. There were also increases in the packs of canned salmon, sardines, mackerel, tuna and tunalike fishes, and frozen fish.

Lake States.—In 1934 the catch of fish in the Lake States exceeded that of any year since 1918. The catch of lake herring and yellow perch was especially large.

Mississippi River and tributaries.—The most recent complete catch statistics of the fisheries of the Mississippi River and tributaries are those collected for the year 1931. As compared with 1922 when the most recent preceding survey was made, there was a decrease in

the catch which was reflected principally in a smaller catch of freshwater mussels. A survey made for Lakes Pepin and Keokuk and the Mississippi River between these two lakes showed a decrease in 1934 as compared with the preceding year. The production of mussel-shell buttons decreased in 1934.

Alaska.—The catch of fishery products in Alaska in 1934 increased in both volume and value as compared with 1933. The pack of canned salmon was much larger in 1934 in both volume and value than in the preceding year. There also were increases in the production of fresh and frozen fish, and fishery byproducts; however, there was a decrease in both the volume and value of cured products.

Fisheries of the United States and Alaska

SUMMARY OF CATCH: BY SECTIONS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Product	New England, 1933, Area XXII		Middle Atlantic, 1933, Area XIII		Chesapeake, 1934, Area XXIII		South Atlantic and Gulf, 1934, Areas XXIV and XXV		Pacific, 1934	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fish	461,621	9,593	142,771	2,266	210,618	2,215	288,015	4,435	1,522,817	18,289
Shellfish, etc	38,315	3,893	26,982	2,545	78,393	3,728	159,899	5,559	19,287	1,569
Whale products									3,998	92
Total	499,936	13,486	169,753	4,811	289,011	5,943	447,914	9,994	1,546,102	19,950

Product	Lakes, 1934		Mississippi River and tributaries, 1931		Alaska, 1934		Total for the various years	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fish	93,241	5,068	44,062	2,257	807,183	11,541	3,570,328	55,664
Shellfish, etc	3,170	56	38,321	640	2,732	166	367,099	18,156
Whale products					9,354	251	13,352	343
Total	96,411	5,124	82,383	2,897	819,269	11,958	3,950,779	74,163

NOTE.—The roman numerals appearing under the names of the sections are the numbers given these areas by the North American Council on Fishery Investigations. It should be explained that there are included under these areas craft whose principal fishing ports are in the respective areas but at times they may fish elsewhere.

OPERATING UNITS: BY SECTIONS

Item	New England, 1933	Middle Atlantic, 1933	Chesapeake, 1934	South Atlantic, and Gulf, 1934 [1]	Pacific, 1934
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	5,049	2,442	2,132	2,914	6,914
On boats and shore	12,024	6,132	18,459	21,984	12,318
Total	17,073	8,574	20,591	24,898	19,232
Vessels:					
Steam	24	19	26		3
Net tonnage	2,879	3,010	2,937		64
Motor	570	384	115	710	946
Net tonnage	16,602	6,121	1,688	8,789	26,315
Sail	1	4	136	30	5
Net tonnage	47	32	1,513	298	2,170
Total vessels	595	407	277	740	954
Total net tonnage	19,528	9,163	6,138	9,087	28,549

[1] Includes the fisheries of Lake Okeechobee, Fla.

Fisheries of the United States and Alaska—Continued

OPERATING UNITS: By sections—Continued

Item	New England, 1933	Middle Atlantic, 1933	Chesapeake, 1934	South Atlantic, and Gulf, 1934	Pacific, 1934
Boats:	*Number*	*Number*	*Number*	*Number*	*Number*
Motor	4,581	1,747	6,865	6,309	5,465
Other	3,819	2,123	5,852	8,089	908
Accessory boats	1,227	157	96	198	750
Apparatus:					
Haul seines	79	249	488	852	131
Purse seines	178	27	32	40	456
Lampara nets					213
Otter trawls (including all types and sizes)	566	197	25	3,051	26
Beam trawls					27
Paranzella nets					15
Gill nets	7,348	1,529	10,849	10,581	4,024
Trammel nets				425	48
Pound nets, trap nets, and weirs	457	574	2,341	1,551	454
Stop nets		96	2	9	
Fyke nets	121	2,667	2,640	490	2,075
Bag nets and pocket nets	144				
Other nets [3]	423	433	3,712	14,486	454
Hooks, baits, or snoods	3,617,680	622,304	2,020,400	609,206	1,153,962
Fish wheels				33	27
Eel pots and traps	4,774	7,324	13,583	790	
Brush traps				25,250	
Lobster pots	319,460	46,576			6,520
Crab, shrimp, crawfish pots, traps, drags, etc.	3,407	10		2,654	21,784
Clam dredges	75	90		1	
Crab dredges		86	200		
Mussel dredges	1	2			
Oyster dredges	107	353	690	662	4
Scallop dredges and drags	2,569	260		6	
Crab scrapes			586		
Tongs, rakes, hoes, forks, picks, grabs, etc.	4,509	3,229	10,294	2,877	3,457
Diving outfits				53	19
Crowfoot bars					
Other apparatus [5]	3,007	200	2	4,473	53

Item	Lakes, 1934	Mississippi River and tributaries, 1931	Alaska, 1934	Total for the various years
Fishermen:	*Number*	*Number*	*Number*	*Number*
On vessels	1,703		[2] 9,433	30,587
On boats and shore	5,876	15,884		92,677
Total	7,579	15,884	9,433	123,264
Vessels:				
Steam	76		7	155
Net tonnage	1,716		541	11,147
Motor	414		629	3,768
Net tonnage	4,581		8,814	72,910
Sail				176
Net tonnage				4,060
Total vessels	490		636	4,099
Total net tonnage	6,297		9,355	88,117
Boats:				
Motor	1,720	4,426	1,022	32,135
Other	1,350	10,120	3,253	35,514
Accessory boats	18			2,446
Apparatus:				
Haul seines	254	1,013	140	3,206
Purse seines			553	1,286
Lampara nets				213
Otter trawls (including all types and sizes)				3,865
Beam trawls			13	40
Paranzella nets				15
Gill nets	98,012	101	3,709	136,153

[2] Includes persons in boat and shore fisheries.
[3] Includes dip nets, push nets, reef nets, cast nets, scap nets, and drag nets.
[5] Includes periwinkle, cockle, and fish pots; harpoons; spears; baskets; coquina scoops; and sponge hooks.

Fisheries of the United States and Alaska—Continued

OPERATING UNITS: By sections—Continued

Item	Lakes, 1934	Mississippi River and tributaries, 1931	Alaska, 1934	Total for the various years
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*
Trammel nets	123	518		1,114
Pound nets, trap nets, and weirs	9,008	374	479	15,238
Stop nets				107
Fyke nets	2,821	32,541		43,355
Bag nets and pocket nets				144
Other nets [3]		191		19,699
Hooks, baits, or snoods	726,986	2,459,179	(4)	11,209,717
Fish wheels			262	322
Eel pots and traps				26,471
Brush traps				25,250
Lobster pots				372,556
Crab, shrimp, crawfish pots, traps, drags, etc	2,710	456	2,851	33,872
Clam dredges				166
Crab dredges				286
Mussel dredges		440		443
Oyster dredges				1,816
Scallop dredges and drags				2,835
Crab scrapes				586
Tongs, rakes, hoes, forks, picks, grabs, etc	142	3,994		28,502
Diving outfits	16			88
Crowfoot bars	685	4,480		5,165
Other apparatus [5]		3,781		11,516

CATCH: By sections

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1934		South Atlantic and Gulf, 1934 [1]		Pacific, 1934	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alewives	2,817	17	1,390	10	11,080	96	15,112	92		
Amberjack	2	(6)					4	(6)		
Anchovies									258	4
Barracuda									2,183	95
Black bass					33	3	424	25		
Bluefish	921	76	3,252	132	1,265	55	3,732	165		
Blue runner or hardtail							184	3		
Bonito	52	2	247	14	20	1				
Bowfin							1	(6)		
Buffalofish							19	1		
Butterfish	1,554	68	4,410	181	3,791	121	44	1		
Cabio or crab eater					25	1	7	(6)		
Cabrilla									332	14
Carp			390	36	460	24	109	4	264	5
Catfish and bullheads			76	6	776	32	3,480	117	185	23
Cero			3	(6)			4	(6)		
Cigarfish							4	(6)		
Cod	99,632	1,856	7,493	212	2	(6)			16,440	221
Corbina									1	(6)
Crappie					1	(6)	462	12		
Crevalle	2	(6)	7	(6)			115	2		
Croaker	2,497	36	2,048	48	22,074	266	8,374	118		
Cunner	42	(6)								
Cusk	6,109	72	4	(6)						
Cutlassfish					2	(6)				
Dolphin			(6)	(6)	(6)	(6)	8	(6)		
Drum:										
Black	(6)	(6)	(6)	(6)	38	1	2,556	69		
Red or redfish	2	(6)	9	(6)	60	1	3,365	156		
Eels:										
Common	517	35	680	60	274	24	63	3		
Conger	41	1	16	1	2	(6)				
Flounders	37,795	1,173	9,252	363	1,000	49	1,297	63	12,471	624
Flyingfish									26	1
Frigate mackerel	125	4	102	2						

[1] Includes the fisheries of Lake Okeechobee, Fla.
[3] Includes dip nets, push nets, reef nets, scap nets, and drag nets.
[4] Number not determined.
[5] Includes periwinkle, cockle, and fish pots; harpoons; spears; baskets; coquina scoops; and sponge hooks.
[6] Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1934		South Atlantic and Gulf, 1934		Pacific, 1934	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Garfish							(6)	(6)		
Gizzard shad					114	1	24	(6)		
Goosefish			10	(6)						
Grayfish	13	(6)	7	(6)					526	12
Groupers							3,570	85	61	3
Grunts							49	1		
Haddock	160,107	3 646	8,507	248	(6)	(6)				
Hake	15,320	203	162	3	21	(6)			57	1
Halibut	2,457	236	53	7					24,800	1,780
Hardhead									147	7
Harvestfish or "starfish"					289	12	820	12		
Herring:										
Round			1	(6)						
Sea	48,087	211	666	6	361	3			1,081	6
Herring smelt	12	(6)								
Hickory shad	2	(6)	1	(6)	108	2	158	7		
Hogfish							6	(6)		
Horse mackerel									1,581	15
Jewfish							47	1		
Kingfish (California)									634	15
Kingfish or "king mackerel"			(6)	(6)			2,661	117		
King whiting or "kingfish"	40	1	157	15	106	5	661	16		
Lake trout										
Launce	21	(6)								
"Lingcod"									2,092	67
Mackerel	40,832	878	662	22	15	1	(6)	(6)	113,848	720
Marlin									65	3
Menhaden	1,029	3	79,575	236	143,879	600	164 386	541		
Minnows					57	3				
Mojarro							19	(6)		
Mooneye										
Mullet	9	(6)	318	9	114	4	30,485	812	19	1
Mummichog			51	4						
Muttonfish							199	9		
Paddlefish or "spoonbill cat"							1	(6)		
Permit							2	(6)		
Pigfish	4	(6)	(6)	(6)	9	(6)	187	3		
Pike or pickerel (jacks)			(6)	(6)	23	3	1	(6)		
Pilchard									1,135,959	4,178
Pinfish							211	2		
Pollock	15,027	164	777	12						
Pompano			(6)	(6)			442	79	4	2
Quillback										
Rock bass									412	21
Rockfishes									5,228	184
Rosefish	264	3								
Rudderfish									32	1
Sablefish									4,450	145
Salmon:										
Atlantic	25	6								
Blueback, red or sockeye									24,297	1,564
Chinook or king									33,432	2,346
Chum or keta									10,696	222
Humpback or pink									191	6
Silver or coho									18,476	814
Sauger										
Sawfish							18	(6)		
Sculpin									71	2
Scup or porgies	4,195	89	6,360	92	731	20	38	1		
Sea bass	3,999	122	2,475	87	137	5	256	10	859	33
Sea bass, white (California)									852	54
Sea catfish							105	(6)		
Sea robin	77	1	30	(6)	1	(6)				
Shad	386	16	834	76	4,990	405	2,497	330	1,949	57
Sharks	66	1	12	(6)	20	(6)	3,230	9		

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1934		South Atlantic and Gulf, 1934		Pacific, 1934	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Sheepshead:										
Fresh water										
Salt water	(6)	(6)	(6)	(6)			1,199	39	144	
Silver perch					6	(6)				
Silversides			23	3						
Skates	240	2	84	1	10	(6)	175	(6)	232	3
Skipper or "billfish"	5	(6)								
Smelt	551	60	(6)	(6)					3,867	84
Snapper:										
Mangrove							229	7		
Red							5,856	323		
Snook							428	11		
Spadefish							6	(6)		
Spanish mackerel			6	(6)	53	4	6,968	286	7	(6)
Splittail									55	1
Spot	33	(6)	528	8	2,104	61	4,905	76		
Squawfish									2	(6)
Squeteague or "sea trout":										
Gray	369	14	7,874	227	14,884	295	7,742	181		
Spotted	2	(6)	(6)	(6)	57	3	8,711	544		
White							731	18		
Squirrel hake			53	(6)						
Steelhead trout									2,830	164
Striped bass	61	7	40	6	642	66	362	36	825	49
Sturgeon	8	1	30	3	8	1	73	6	80	2
Sturgeon, shovelnose										
Suckers	52	2	172	13	22	1			63	1
Sunfish			2	(6)	25	1	517	14		
Surffishes (perch)									263	14
Swellfish			2	(6)	2	(6)				
Swordfish	3,381	405	103	13					264	37
Tautog	484	16	132	12	1	(6)				
Tenpounder							29	(6)		
Thimble-eyed mackerel	78	2	25	(6)	22	(6)				
Tilefish	207	10	1,350	68						
Tomcod	2	(6)	8	(6)					1	(6)
Tripletail							1	(6)		
Tullibees										
Tuna and tunalike fishes:										
Albacore									121	9
Bluefin or horse mackerel	401	18	43	2			4	(6)	18,358	846
Bonito									3,203	77
Skipjack or striped									14,830	594
Yellowfin									60,913	3,053
Turbot							2	(6)		
Wahoo							2	(6)		
White bass										
Whitebait			3	(6)					106	5
Whitefish:										
Common									93	5
Menominee										
White perch	50	7	75	5	734	34	540	23		
Whiting	9,419	97	2,147	21	4	(6)				
Wolffish	2,197	32	26	1						
Yellow perch	1	(6)	8	1	166	10	17	(6)		
Yellow pike										
Yellowtail							81	5	2,347	79
Miscellaneous fish									234	6
Total	461,621	9,593	142,771	2,266	210,618	2,215	288,015	4,435	1,522,817	18,289
SHELLFISH, ETC.										
Crabs:										
Hard	5,629	40	955	25	36,137	739	18,013	266	7,004	462
King	7	(6)	2,750	7			500	(6)		
Soft			94	20	3,660	311	908	123		
Stone							81	6		
Crawfish									144	15

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1934		South Atlantic and Gulf, 1934		Pacific, 1934	
SHELLFISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Lobsters:										
Common	9,088	1,608	724	137	(6)	(6)				
Spiny							351	17	1,183	180
Shrimp	41	2	86	15			119,318	3,069	1,844	32
Abalone									645	105
Clams:										
Coquina							6	1		
Hard	3,040	375	3,621	532	2,641	367	920	66	712	42
Pismo									35	7
Razor	358	16							586	84
Soft	9,431	476	1,136	65					71	16
Surf	59	4	526	24						
Mixed									38	2
Conchs			35	2			2	(6)		
Mussels, sea	141	6	53	3	23	1				
Mussel shells										
Octopus							2	(6)	96	4
Oysters:										
Eastern, market, public	87	12	178	20	22,588	1,347	12,170	731		
Eastern, market, private	5,070	735	13,754	1,428	13,198	956	6,657	410	90	39
Japanese, market									4,956	359
Western, market									330	187
Periwinkles and "cockles"	191	12								
Scallops:										
Bay	621	204	49	17			110	12	12	3
Sea	2,158	267	2,197	216	1	1	120	18		
Squid	1,075	19	792	15	114	4			1,537	32
Sea urchins	6	(6)								
Terrapin			1	1	26	2	17	2		
Turtles			11	1	5	(6)	69	1	4	(6)
Frogs										
Irish moss	12	1								
Sponges							655	837		
Pearls and slugs										
Bloodworms	661	71	11	10						
Sandworms	640	45	9	7						
Total	38,315	3,893	26,982	2,545	78,393	3,728	159,899	5,559	19,287	1,569
WHALE PRODUCTS [7]										
Meat									2,044	41
Fertilizer										
Oil, sperm										
Oil, whale									1,954	51
Total									3,998	92
Grand total	499,936	13,486	169,753	4,811	289,011	5,943	447,914	9,994	1,546,102	19,950

Species	Lakes, 1934		Mississippi River and tributaries, 1931		Alaska, 1934		Total for the various years	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alewives							30,399	215
Amberjack							6	(6)
Anchovies							258	4
Barracuda							2,183	95
Black bass			14	2			471	30
Bluefish							9,170	428
Blue pike	8,509	445					8,509	445
Blue runner or hardtail							184	3
Bonito							319	17
Bowfin	9	(6)	428	9			438	9
Buffalofish	1	(6)	15,772	688			15,792	689

[6] Less than 500 pounds or dollars.

[7] The weight of whales caught was not determined; therefore, the weight of the manufactured products is shown.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Lakes, 1934		Mississippi River and tributaries, 1931		Alaska, 1934		Total for the various years	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Butterfish							9,799	371
Burbot	396	7					396	7
Cabio or crab eater							32	1
Cabrilla							332	14
Carp	3,846	66	11,892	456			16,961	591
Catfish and bullheads	789	48	10,267	878			15,573	1,104
Cero							7	(6)
Chubs	7,149	644					7,149	644
Cigarfish							4	(6)
Cisco	111	9					111	9
Cod					1,487	9	125,054	2,298
Corbina							1	(6)
Crappie	1	(6)	41	3			505	15
Crevalle							124	2
Croaker							34,993	468
Cunner							42	(6)
Cusk							6,113	72
Cutlassfish							2	(6)
Dolly Varden trout					41	3	41	3
Dolphin							8	(6)
Drum:								
Black							2,594	70
Red or redfish							3,436	157
Eels:								
Common	65	2	7	(6)			1,606	124
Conger							59	2
Flounders					300	4	62,115	2,276
Flyingfish							26	1
Frigate mackerel							227	6
Garfish			73	1			73	1
Gizzard shad							138	1
Goldfish	68	1					68	1
Goosefish							10	(6)
Grayfish							546	12
Groupers							3,631	88
Grunts							49	1
Haddock							168,614	3,894
Hake							15,560	207
Halibut					14,690	805	42,000	2,828
Hardhead							147	7
Harvestfish or "starfish"							1,109	24
Herring:								
Round							1	(6)
Lake	23,941	440					23,941	440
Sea					165,637	828	215,832	1,054
Herring smelt							12	(6)
Hickory shad							269	9
Hogfish							6	(6)
Horse mackerel							1,581	15
Jewfish							47	1
Kingfish (California)							634	15
Kingfish or "king mackerel"							2,661	117
King whiting or "kingfish"							964	37
Lake trout	10,112	1,200					10,112	1,200
Launce							21	(6)
"Lingcod"							2,092	67
Mackerel							155,357	1,621
Marlin							65	3
Menhaden							388,869	1,380
Minnows			1	(6)			58	3
Mojarro							19	(6)
Mooneye	26	(6)	3	(6)			29	(6)
Mullet							30,945	826
Mummichog							51	4
Muttonfish							199	9
Paddlefish or "spoonbill cat"			951	43			952	43
Permit							2	(6)
Pigfish							200	3
Pike or pickerel (jacks)	559	19	5	(6)			588	22
Pilchard							1,135,959	4,178
Pinfish							211	2
Pollock							15,804	176
Pompano							446	81
Quillback			268	11			268	11

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Lakes, 1934		Mississippi River and tributaries, 1931		Alaska, 1934		Total for the various years	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Rock bass	23	1					435	22
Rockfishes					7	(6)	5,235	184
Rosefish							264	3
Rudderfish							32	1
Sablefish					317	9	4,767	154
Salmon:								
Atlantic							25	6
Blueback, red or sockeye					225,457	4,510	249,754	6,074
Chinook or king					11,193	270	44,625	2,616
Chum or keta					73,136	706	83,832	928
Humpback or pink					292,153	4,002	292,344	4,008
Silver or coho					22,712	393	41,188	1,207
Sauger	1,174	58	3	(6)			1,177	58
Sawfish							18	(6)
Sculpin							71	4
Scup or porgies							11,324	202
Sea bass							7,726	262
Sea bass, white (California)							852	56
Sea catfish							105	(6)
Sea robin							108	1
Shad							10,656	884
Sharks							3,328	10
Sheepshead:								
Fresh water	2,232	38	3,905	143			6,137	181
Salt water							1,343	44
Silver perch							6	(6)
Silversides							23	3
Skates							741	6
Skipper or "billfish"							5	(6)
Smelt	1,029	16					5,447	160
Snapper:								
Mangrove							229	7
Red							5,856	323
Snook							428	11
Spadefish							6	(6)
Spanish mackerel							7,034	290
Splittail							55	1
Spot							7,570	145
Squawfish							2	(6)
Squeteague or "sea trout":								
Gray							30,869	718
Spotted							8,770	547
White							731	18
Squirrel hake							53	(6)
Steelhead trout	2	(6)			53	2	2,885	166
Striped bass							1,930	164
Sturgeon	36	9					235	22
Sturgeon, shovelnose			87	8			87	8
Suckers	5,616	136	315	13			6,240	166
Sunfish	18	(6)	22	1			584	16
Surffishes (perch)							263	14
Swellfish							4	(6)
Swordfish							3,748	455
Tautog							617	28
Tenpounder							29	(6)
Thimble-eyed mackerel							125	2
Tilefish							1,557	78
Tomcod							11	(6)
Tripletail							1	(6)
Tullibees	156	(6)					156	(6)
Tuna and tunalike fishes:								
Albacore							121	9
Bluefin or horse mackerel							18,806	866
Bonito							3,203	77
Skipjack or striped							14,830	594
Yellowfin							60,913	3,053
Turbot							2	(6)
Wahoo							2	(6)
White bass	688	25	3	(6)			691	25
Whitebait							109	5
Whitefish:								
Common	6,276	804					6,369	809
Menominee	229	12					229	12

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Lakes, 1934		Mississippi River and tributaries, 1931		Alaska, 1934		Total for the various years	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
White perch							1,399	69
Whiting							11,570	118
Wolffish							2,223	33
Yellow perch	16,099	695					16,291	706
Yellow pike	4,081	393	5	1			4,086	394
Yellowtail							2,428	84
Miscellaneous fish							234	6
Total	93,241	5,068	44,062	2,257	807,183	11,541	3,570,328	55,664
SHELLFISH, ETC.								
Crabs:								
Hard					1,259	104	68,997	1,636
King							3,257	7
Soft							4,662	454
Stone							81	6
Crawfish	36	3	28	(6)			208	18
Lobsters:								
Common							9,812	1,745
Spiny							1,534	197
Shrimp			49	4	690	24	122,028	3,146
Abalone							645	105
Clams:								
Coquina							6	1
Hard					2	(6)	10,936	1,382
Pismo							35	7
Razor					781	38	1,725	138
Soft							10,638	557
Surf							585	28
Mixed							38	2
Conchs							37	2
Mussels, sea							217	10
Mussel shells	3,134	51	37,255	422			40,389	473
Octopus							98	4
Oysters:								
Eastern, market, public							35,023	2,110
Eastern, market, private							38,769	3,568
Japanese, market							4,956	359
Western, market							330	187
Periwinkles and "cockles"							191	12
Scallops:								
Bay							792	236
Sea							4,476	502
Squid							3,518	70
Sea urchins							6	(6)
Terrapin			19	(6)			63	5
Turtles			95	3			184	5
Frogs			875	131			875	131
Irish moss							12	1
Sponges							655	837
Pearls and slugs		2		80				82
Bloodworms							672	81
Sandworms							649	52
Total	3,170	56	38,321	640	2,732	166	367,099	18,156
WHALE PRODUCTS [7]								
Meat							2,044	41
Fertilizer					2,698	38	2,698	38
Oil, sperm					574	17	574	17
Oil, whale					6,082	196	8,036	247
Total					9,354	251	13,352	343
Grand total	96,411	5,124	82,383	2,897	819,269	11,958	3,950,779	74,163

[6] Less than 500 pounds or dollars.

[7] The weight of whales caught was not determined; therefore, the weight of the manufactured products is shown.

Fisheries of the United States and Alaska—Continued

CATCH: BY STATES [8]

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

State	Marine and coastal rivers		Mississippi River and tributaries		Lakes [9]		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alabama	7,964	253	1,822	33			9,786	286
Arkansas			15,733	411			15,733	411
California	1,406,176	12,188					1,406,176	12,188
Connecticut	9,878	613					9,878	613
Delaware	36,527	209					36,527	209
Florida	117,192	3,587			1,609	48	118,801	3,635
Georgia	27,141	360					27,141	360
Illinois			14,263	367	1,206	92	15,469	459
Indiana			7,717	157	702	52	8,419	209
Iowa			7,778	302			7,778	302
Kansas			455	17			455	17
Kentucky			1,622	61			1,622	61
Louisiana	76,633	2,285	19,214	995			95,847	3,280
Maine	98,498	2,307					98,498	2,307
Maryland	42,210	1,766					42,210	1,766
Massachusetts	373,670	9,507					373,670	9,507
Michigan					30,393	2,156	30,393	2,156
Minnesota			3,498	138	10,735	297	14,233	435
Mississippi	22,153	652	2,650	123			24,803	775
Missouri			928	77			928	77
Nebraska			145	16			145	16
New Hampshire	523	57					523	57
New Jersey	93,263	2,146					93,263	2,146
New York	39,911	2,453			1,432	99	41,343	2,552
North Carolina	163,462	1,672					163,462	1,672
Ohio			185	7	27,670	1,157	27,855	1,164
Oklahoma			40	4			40	4
Oregon	26,458	1,457					26,458	1,457
Pennsylvania	52	3			3,572	208	3,624	211
Rhode Island	17,366	1,001					17,366	1,001
South Carolina	5,891	225					5,891	225
South Dakota			114	11			114	11
Tennessee			3,435	104			3,435	104
Texas	25,869	912	139	6			26,008	918
Virginia	246,801	4,177					246,801	4,177
Washington	113,469	6,305					113,469	6,305
Wisconsin			2,645	68	20,701	1,064	23,346	1,132
Alaska	819,269	11,958					819,269	11,958
Total	3,770,376	66,093	82,383	2,897	98,020	5,173	3,950,779	74,163

SEED OYSTER FISHERY

Item	New England, 1933	Middle Atlantic, 1933
OPERATING UNITS		
Fishermen:	*Number*	*Number*
On vessels	93	1,586
On boats and shore:		
Regular	5	298
Casual	160	150
Total	258	2,034
Vessels:		
Steam	3	
Net tonnage	245	
Motor	18	7
Net tonnage	271	69
Sail	2	146
Net tonnage	17	2,977
Total vessels	23	153
Total net tonnage	533	3,046

[8] The catch for "Marine and coastal rivers" and "Lakes" is for 1934 except in the New England and Middle Atlantic States, which is for 1933. The catch for "Mississippi River and tributaries" is for 1931.

[9] Includes Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, Lake Superior, Rainy Lake, Namakan Lake, Lake of the Woods, Lake Okeechobee and several mussel-bearing streams tributary to Lakes Huron, Erie, and Michigan.

Fisheries of the United States and Alaska—Continued

SEED OYSTER FISHERY—Continued

Item	New England, 1933		Middle Atlantic, 1933	
OPERATING UNITS—continued				
Boats:	*Number*		*Number*	
Motor	7		206	
Other	90		152	
Apparatus:				
Dredges, oyster	101		300	
Yards at mouth	97		363	
Tongs	96		374	
Rakes	46		79	
CATCH				
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	31, 458	$12, 684	1, 003, 540	$261, 862
Seed, public, fall	43, 163	17, 265	23, 500	8, 250
Seed, private, spring	207, 185	69, 617	40, 290	39, 540
Seed, private, fall			38, 290	38, 290
Total	281, 806	99, 566	1, 105, 620	347, 942

Item	Chesapeake, 1934		South Atlantic and Gulf, 1934		Total	
OPERATING UNITS						
Fishermen:	*Number*		*Number*		*Number*	
On vessels	28				1, 707	
On boats and shore:						
Regular	1, 005		12		1, 320	
Casual	120				430	
Total	1, 153		12		3, 457	
Vessels:						
Steam	7				10	
Net tonnage	69				314	
Motor	1				26	
Net tonnage	23				363	
Sail					148	
Net tonnage					2, 994	
Total vessels	8				184	
Total net tonnage	92				3, 671	
Boats:						
Motor	558				771	
Other	36		6		284	
Apparatus:						
Dredges, oyster	10		12		423	
Yards at mouth	19		12		491	
Tongs	1, 131				1, 601	
Rakes					125	
CATCH						
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	1, 156, 083	$174, 024	17, 450	$2, 617	2, 208, 531	$451, 187
Seed, public, fall	867, 342	130, 708			934, 005	156, 223
Seed, private, spring	32, 868	1, 643			280, 343	110, 800
Seed, private, fall	32, 868	1, 644			71, 158	39, 934
Total	2, 089, 161	308, 019	17, 450	2, 617	3, 494, 037	758, 144

NOTE.—Of the number of persons fishing for seed oysters, a total of 3,033 are duplicated among those fishing for market oysters or other species. Similarly, the following craft and gear are duplicated: 93 vessels, 540 motor boats, 212 other boats, 192 dredges, 1,396 tongs, and 61 rakes.

Yield of the fisheries of the United States: By gear

Gear	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1934	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Purse seines	56,586,422	$796,362	77,945,874	$205,503	143,009,600	$596,380
Haul seines	910,017	32,041	1,845,557	70,568	4,536,400	158,231
Gill nets	18,593,520	359,016	2,517,227	117,750	1,378,000	114,672
Lines	99,382,952	2,167,473	7,633,174	292,745	29,941,200	552,436
Pound nets	14,419,422	227,622	28,325,529	692,557	56,095,000	1,197,115
Floating traps	8,458,029	159,754				
Other traps	28,910	2,512				
Weirs	21,801,005	92,599	893,336	2,485		
Stop nets			208,874	20,472	22,100	448
Fyke nets	81,216	3,192	694,092	21,736	1,098,200	50,846
Dip nets	3,640,232	45,571	86,022	16,852	2,778,300	231,038
Cast nets			400	48		
Scap nets			149,664	8,574		
Bag and pocket nets	116,068	13,039				
Drag nets			51,900	10,855		
Push nets	18,000	7,000				
Otter trawls	235,003,844	5,296,742	24,410,956	780,076	4,567,200	113,071
Pots	15,081,503	1,673,370	[2] 2,369,400	[2] 203,269	166,600	11,828
Harpoons	3,481,594	406,727	102,386	12,549		
Spears	106,663	7,537	126,568	12,682	1,800	180
Scrapes, crab					1,342,100	71,682
Dredges	8,311,071	1,224,218	17,238,166	1,698,835	15,069,200	820,679
Tongs	1,443,961	202,993	2,618,049	372,867	27,646,300	1,795,459
Rakes	1,129,890	145,761	1,281,227	179,516	374,600	30,198
Forks	2,811,825	283,046	171,093	29,770		
Hoes	8,378,980	333,750	913,560	45,752		
Picks					269,400	40,416
Gaffs			750	75		
By hand	151,015	5,225	169,331	15,519	714,900	158,731
Total	499,936,139	13,485,550	169,753,735	4,811,055	289,010,900	5,943,410

Gear	South Atlantic and Gulf, 1934		Pacific, 1934		Lakes, 1934	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Purse seines	164,367,700	$553,133	906,342,200	$5,390,907		
Haul seines	36,138,600	990,725	6,022,900	339,077	4,176,000	$89,287
Gill nets	48,900,500	1,598,648	27,358,500	1,409,810	44,432,900	2,547,455
Trammel nets	5,655,000	290,441	848,000	64,130	218,500	4,051
Lines	32,049,700	978,492	159,150,300	7,226,138	2,394,600	278,599
Pound nets	19,218,900	304,045	21,517,500	1,276,083	10,902,100	494,978
Other traps	520,100	65,700			28,686,600	1,546,336
Weirs	3,000	90	236,400	1,466		
Wheels	459,000	2,500	320,500	23,545		
Stop nets	563,400	16,674				
Fyke nets	146,600	4,516	247,700	21,617	2,430,500	106,628
Dip nets	3,745,200	109,531	2,673,300	48,504		
Drag bag nets			1,521,000	28,155		
Cast nets	642,200	14,240				
Push nets	[1] 5,800	[1] 975				
Reef nets			23,800	1,120		
Lampara nets			385,368,400	1,855,358		
Paranzella nets			12,505,800	581,830		
Otter trawls	113,248,200	2,914,053	1,363,500	43,364		
Beam trawls			522,000	14,459		
Pots	1,426,500	61,204	8,293,100	652,317	35,600	3,200
Harpoons			4,323,200	131,338		
Spears	153,800	10,213				
Dredges	8,148,000	545,011	(3)	(3)		
Tongs	7,636,200	508,060	[3] 6,819,200	[3] 736,099		
Crowfoot bars					1,681,800	29,125
Rakes	367,100	38,772	(3)	(3)		
Forks	134,200	5,988				
Grabs	2,991,100	103,656				
Picks					251,300	4,723
Hooks	240,400	250,269				
Diving apparatus, abalone and sponge	417,400	587,456	644,700	104,742	35,200	679
By hand	744,300	39,268			1,166,100	18,674
Total	447,913,900	9,993,660	1,546,102,000	19,950,059	96,411,200	5,123,735

[1] This catch was made by scoop nets.
[2] Includes the catch by baskets.
[3] The catch by shovels, rakes, and dredges is included with tongs.

Yield of the fisheries of the United States: By gear—Continued

Gear	Mississippi River and tributraries, 1931		Total	
	Pounds	*Value*	*Pounds*	*Value*
Purse seines			1,348,251,796	$7,542,285
Haul seines	13,739,657	$574,541	67,369,131	2,254,470
Gill nets	166,598	6,547	143,347,845	6,153,898
Trammel nets	1,134,206	75,615	7,855,706	434,237
Lines	10,140,037	772,245	340,691,963	12,268,128
Pound nets	224,275	9,541	150,702,726	4,201,941
Floating traps			8,458,029	159,754
Other traps			29,235,610	1,614,548
Weirs			22,933,741	96,640
Wheels			770,500	26,045
Stop nets			794,374	37,594
Fyke nets	18,507,204	797,130	23,205,512	1,005,665
Dip nets	80,045	3,307	12,953,099	454,803
Drag bag nets			1,521,000	28,155
Cast nets			642,600	14,288
Scap nets			149,664	8,574
Bag and pocket nets			116,068	13,039
Drag nets			51,900	10,855
Push nets			23,800	7,975
Reef nets			23,800	1,120
Lampara nets			385,368,400	1,855,358
Paranzella nets			12,505,800	581,830
Otter trawls			378,593,700	9,147,306
Beam trawls			522,000	14,459
Pots	[2] 310,455	[2] 26,277	27,683,158	2,631,465
Harpoons			7,907,180	550,614
Spears	2,250	270	391,081	30,882
Scrapes, crab			1,342,100	71,682
Dredges	3,699,100	40,958	52,465,537	4,329,701
Tongs	1,601,876	21,091	47,765,586	3,636,569
Crowfoot bars	20,893,550	265,443	22,575,350	294,568
Rakes	370,130	4,029	3,522,947	398,276
Forks	4,812,737	76,214	7,929,855	395,018
Hoes			9,292,540	379,502
Grabs	873,099	130,621	3,864,199	234,277
Picks			520,700	45,139
Hooks			240,400	250,269
Diving apparatus, abalone and sponge			1,097,300	692,877
Gaffs			750	75
By hand	5,877,304	93,528	8,822,950	330,945
Total	82,382,523	2,897,357	3,131,510,397	62,204,826

[2] Includes catch by baskets.

Industries related to the fisheries of the United States and Alaska

Item	New England, 1933	Middle Atlantic, 1933	Chesapeake, 1934	South Atlantic and Gulf, 1934
Transporting:				
Persons engaged:	*Number*	*Number*	*Number*	*Number*
On vessels	256	110	971	397
On boats	54	92	137	181
Total	310	202	1,108	578
Vessels:				
Steam	1		1	
Net tonnage	67		103	
Motor	104	30	433	157
Net tonnage	1,615	629	5,336	1,631
Sail			15	33
Net tonnage			387	301
Total vessels	105	30	449	190
Total net tonnage	1,682	629	5,826	1,932
Boats	31	87	111	168
Wholesale and manufacturing:				
Establishments	362	398	544	591
Persons engaged:				
Proprietors	266	358	689	637
Salaried employees	799	1,067	363	409
Wage earners:				
Average for season	8,112	4,206	11,465	13,308
Average for year	4,170	2,948	5,054	4,200
Salaries and wages paid	$5,410,072	$6,085,981	$2,758,749	$2,873,812
Manufactured products [4]	[5] $17,604,594	[5] $10,998,508	$7,826,195	$9,906,595
Fishermen's manufactured products:				
Persons engaged	2,223	512	134	987
Products [4]	$553,235	$260,146	$11,228	$129,700

[4] Includes packaged, cured, and canned fishery products and byproducts.
[5] Includes data for 1934 on packaged and canned products and byproducts.

Industries related to the fisheries of the United States and Alaska—Continued

Item	Pacific, 1934	Lakes, 1934	Mississippi River and tributaries, 1931	Alaska, 1934	Total for the various years
Transporting:					
Persons engaged:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	263	15	29	1,758	3,799
On boats				[1]	464
Total	263	15	29	1,758	4,263
Vessels:					
Steam	1			11	14
Net tonnage	32			19,967	20,169
Motor	111	8	8	367	1,218
Net tonnage	2,430	114	104	14,060	25,919
Sail					48
Net tonnage					688
Total vessels	112	8	8	378	1,280
Total net tonnage	2,462	114	104	34,027	46,776
Boats				[2] 708	1,105
Wholesale and manufacturing:					
Establishments	323	238	217	231	2,904
Persons engaged:					
Proprietors	358	173	204		
Salaried employees	816	521	355	14,999	77,599
Wage earners:					
Average for season	12,046	2,173	4,275		
Average for year	5,059	1,152	3,483	[3]	[3]
Salaries and wages paid	$7,031,444	$2,442,879	$3,080,430	[3]	[3]
Manufactured products [4]	$41,007,888	$2,696,035	[5] $3,318,829	$40,681,925	$134,040,569
Fishermen's manufactured products:					
Persons engaged	195	535	216	[3]	[3]
Products [4]	$235,549	$67,850	$8,751	[3]	[3]

[1] Included in vessels.
[2] Includes scows, houseboats, pile drivers, etc.
[3] Statistics not available.
[4] Includes packaged, cured, and canned fishery products and by products.
[5] Includes data for 1934 on packaged and canned products and byproducts.

NOTE.—Of the total number of persons engaged in the preparation of fishermen's manufactured products, 4,061 have also been included as fishermen, and 872 of the persons shown on transporting craft have also been included as fishermen.

MANUFACTURED FISHERY PRODUCTS

Statistics of the output of the various manufactured fishery products have been collected in considerably more detail for 1930, 1931, 1933, and 1934 than in previous years. In addition to statistics of the production of cured fishery products, canned fishery products, and fishery byproducts, data also have been collected on the output of packaged fishery products, including shucked oysters, fresh-cooked crab meat, and similar commodities, in the more recent surveys.

Since only a part of the United States was surveyed for general fishery statistics for 1934, the following compilation of manufactured fishery products consists of composite data based on the most recent statistics. The years covered by the data are indicated by footnotes.

Manufactured fishery products of the United States and Alaska [1]

Item	Quantity	Value
Alewives:		
Salted:		
Corned [2] ---- pounds	6,523,375	$77,004
Tight-pack cut [2] ---- do	1,694,538	35,392
Tight-pack roe ---- do	106,900	5,275
Pickled ---- do	[3] 2,395,390	108,005
Spiced ---- do	383,500	54,925
Smoked [2] ---- do	246,435	8,175
Canned ---- standard cases	18,499	54,044
Roe, canned ---- do	19,132	83,331
Dry scrap ---- tons	520	16,508
Oil ---- gallons	13,250	1,505

See footnotes at end of table.

Manufactured fishery products of the United States and Alaska—Continued

Item		Quantity	Value
Barracuda, fresh fillets	pounds	560,000	$67,200
Bluefish, smoked [4]	do	250	46
Buffalofish, smoked [5]	do	470,700	136,295
Butterfish, smoked [5]	do	615,824	150,065
Cabrilla, fresh fillets	do	120,000	14,650
Carp, smoked [5]	do	215,922	65,476
Cisco, chubs, tullibee, and lake herring, smoked [4]	do	7,829,264	1,642,384
Cod:			
Fresh fillets	do	9,044,817	1,080,506
Frozen fillets	do	5,902,508	565,016
Fresh steaks and sticks	do	291,453	31,861
Salted:			
Green [2]	do	[3] 6,944,569	293,899
Green in process, partly boned	do	2,255,775	155,966
Dry [2]	do	1,177,449	63,579
Boneless, including absolutely boneless [2]	do	8,992,565	1,636,843
Tongues	do	2,600	130
Stockfish	do	23,400	2,403
Smoked fillets [4]	do	1,128,228	167,659
Oil:			
Cod	gallons	51,132	22,149
Cod liver	do	94,312	56,643
Croaker, fresh fillets	pounds	38,500	3,780
Croaker, fresh, pandressed	do	563,000	30,360
Cusk:			
Fresh fillets	do	425,033	54,847
Frozen fillets	do	86,097	5,824
Fresh steaks	do	327,546	36,219
Salted:			
Green [4]	do	[3] 61,650	1,288
Dry [4]	do	33,972	1,593
Boneless, including absolutely boneless [4]	do	28,835	3,469
Smoked fillets [3]	do	195,803	25,334
Eels:			
Smoked [5]	do	101,000	27,140
Pickled and salted [2]	do	102,200	6,936
Flounders:			
Fresh fillets	do	4,189,900	657,621
Frozen fillets	do	458,430	64,145
Grayfish, fresh fillets	do	130,000	13,000
Groupers, fresh steaks and fillets	do	385,561	56,428
Haddock:			
Fresh fillets	do	17,378,226	2,047,664
Frozen fillets	do	19,226,422	1,742,139
Fresh sticks	do	61,422	11,206
Salted:			
Green [4]	do	[3] 45,765	1,091
Dry [4]	do	52,032	2,550
Boneless, including absolutely boneless [4]	do	98,295	19,220
Smoked fillets [4]	do	149,214	26,928
Finnan haddie [4]	do	1,171,354	134,818
Hake:			
Fresh fillets	do	1,192,794	120,116
Frozen fillets	do	164,449	12,159
Fresh sticks	do	326,726	36,244
Salted:			
Green [4]	do	[3] 408,653	11,195
Dry [4]	do	277,670	8,896
Boneless, including absolutely boneless [4]	do	581,201	47,851
Smoked fillets [4]	do	33,282	4,586
Halibut:			
Fresh fillets and steaks	do	95,679	23,204
Frozen steaks	do	146,124	22,843
Herring, lake:			
Fresh fillets	do	144,935	13,344
Salted	do	5,599,920	193,975
Herring, sea:			
Salted [2]	do	100,900	3,297
Roused	do	513,050	16,854
Spiced [2]	do	436,816	39,289
Pickled [2]	do	540,100	11,055
Scotch cure	do	7,409,200	445,476
Norwegian cure	do	230,540	8,298
Dry salted	do	80,400	2,701
Smoked:			
Bloaters, hard [2]	do	961,142	45,887
Bloaters, soft [4]	do	886,994	64,636
Bloaters, unclassified	do	72,550	5,804
Boneless [4]	do	1,953,365	187,020
Lengthwise [4]	do	114,915	9,456
Medium scale [4]	do	171,870	14,597
Kippered [2]	do	238,355	29,093
Miscellaneous	do	53,000	4,770

See footnotes at end of table.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Herring, sea—Continued.		
Canned "sardines" standard cases	1,142,730	$3,315,190
Pearl essence pounds	13,805	103,475
Dry scrap tons	1,297	38,122
Meal do	15,179	476,958
Oil gallons	3,772,099	641,839
Lake trout:		
Fresh fillets pounds	11,865	2,529
Smoked do	545,398	131,286
Salted do	25,000	1,240
"Lingcod", fresh fillets do	147,500	17,340
Mackerel:		
Fresh fillets do	80,200	9,854
Frozen fillets do	213,177	18,327
Salted:		
Fillets [4] do	1,767,946	133,266
Split [4] do	1,396,180	95,396
Miscellaneous do	700	49
Smoked [2] do	176,690	28,477
Canned standard cases	1,275,419	3,244,944
Meal tons	3,323	98,392
Oil gallons	157,571	25,533
Menhaden:		
Acid scrap tons	22,051	381,559
Dry scrap do	32,450	1,040,745
Meal do	5,485	206,952
Oil gallons	3,612,364	705,657
Mullet:		
Salted pounds	880,100	41,209
Smoked do	4,500	1,175
Roe, salted do	153,930	9,291
Paddlefish:		
Smoked [6] do	363,800	163,260
Roe, salted [7] do	1,595	812
Pike, blue, yellow, and sauger:		
Fresh fillets do	2,147,059	417,891
Frozen fillets do	540,064	100,360
Pilchard:		
Canned "sardines" standard cases	1,970,047	5,481,391
Meal tons	89,280	2,878,269
Oil gallons	20,845,171	4,413,609
Pollock:		
Fresh fillets and steaks pounds	1,344,375	110,486
Frozen fillets do	3,051,405	189,941
Salted:		
Green [4] do	[3] 114,145	2,275
Dry [4] do	983,829	39,119
Rockfishes, fresh fillets do	934,500	119,870
Rosefish, fresh fillets do	17,760	2,191
Sablefish:		
Fresh fillets do	459,000	45,900
Salted do	291,006	17,037
Kippered [8] do	631,282	96,971
Smoked do	30,142	7,220
Salmon:		
Fresh fillets and steaks do	45,095	11,224
Frozen fillets and steaks do	32,103	5,048
Salted:		
Pickled in brine do	396,665	29,774
Mild cured do	[3] 9,828,952	1,841,481
Caviar do	158,078	20,141
Miscellaneous do	1,439,650	58,094
Smoked [5] do	8,321,240	2,347,532
Kippered [2] do	2,377,887	468,737
Canned:		
Chinook or king standard cases	324,807	3,171,601
Blueback, red or sockeye do	2,988,327	21,359,600
Silver or coho do	371,683	2,303,514
Humpback or pink do	3,826,823	15,680,145
Chum or keta do	855,314	3,149,341
Steelhead trout do	16,082	153,696
Meal tons	1,737	46,468
Oil gallons	202,458	57,306
Eggs for food, canned standard cases	860	20,164
Eggs for bait, canned do	5,044	128,453
Sea bass:		
Black, fresh fillets pounds	485,000	54,000
White, fresh fillets do	168,500	26,565
Shad:		
Mild cured do	52,800	3,200
Smoked and kippered [2] do	247,142	48,578
Canned standard cases	8,233	24,458
Roe canned do	2,118	58,857

See footnotes at end of table.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Sheepshead:		
Fresh fillets—pounds	47,845	$6,643
Frozen fillets—do	1,348	135
Smoked [7]—do	617	77
Snapper, red:		
Fresh fillets and steaks—do	65,335	13,274
Squeteagues:		
Fresh fillets—do	115,300	10,446
Fresh pandressed—do	965,000	54,350
Squirrel hake, smoked [4]—do	50	5
Sturgeon:		
Smoked and kippered [5]—do	1,523,602	780,944
Salted roe [5]—do	402	338
Caviar, canned—standard cases	3,128	397,036
Swordfish, fresh fillets and steaks—pounds	110,289	32,465
Totuava, fresh fillets—do	365,000	54,750
Trout (Dolly Varden), dried—do	1,500	30
Tuna and tunalike fishes:		
Canned:		
Albacore—standard cases	90,599	512,319
Bluefin—do	312,198	1,420,733
Bonito—do	58,083	234,598
Striped—do	226,359	1,034,799
"Tonno"—do	167,484	1,082,318
Yellowfin—do	1,100,772	5,680,503
Yellowtail—do	11,448	44,272
Meal—tons	6,705	191,015
White bass:		
Fresh fillets—pounds	26,746	3,951
Frozen fillets—do	9,528	1,158
Whitefish:		
Fresh fillets—do	5,771	744
Smoked [5]—do	2,419,473	639,571
Caviar, canned—standard cases	912	37,678
Whiting, smoked [4]—pounds	50	5
Wolffish:		
Fresh fillets—do	75,800	10,387
Frozen fillets—do	254,830	24,079
Yellow perch:		
Fresh fillets—do	2,680,559	507,214
Frozen fillets—do	219,239	37,472
Crabs:		
Meat, packaged, fresh cooked [2]—do	5,574,331	1,903,949
Canned—standard cases	11,614	191,532
Dry scrap and meal—tons	1,713	26,475
Crabs, king, meal and dry scrap—do	702	24,717
Lobsters:		
Common, packaged, fresh cooked [2]—pounds	939,020	307,420
Spiny packaged, fresh cooked—do	56,500	21,738
Shrimp:		
Frozen, packaged—do	2,299,800	379,467
Sun dried—do	1,860,775	279,714
Cooked and peeled—do	1,367,016	315,789
Canned—standard cases	1,021,822	4,403,077
Meal or "bran"—tons	1,212	23,569
Abalone, steaks—pounds	627,300	183,990
Clams, hard:		
Fresh shucked [2]—gallons	13,646	21,781
Canned:		
Whole—standard cases	17,962	89,689
Chowder—do	349,955	1,448,483
Minced—do	15,206	77,861
Broth, bouillon and cocktail—do	5,981	34,256
Juice and nectar—do	8,820	38,945
Clams, razor:		
Fresh shucked [4]—gallons	36,078	17,729
Canned:		
Whole—standard cases	1,143	9,994
Minced—do	49,160	386,833
Juice—do	126	378
Clams, soft:		
Fresh shucked [4]—gallons	129,286	120,024
Steamed [4]—pounds	[3] 161,887	11,279
Canned:		
Whole—standard cases	89,871	321,399
Chowder—do	82,027	269,420
Juice and bouillon—do	12,804	35,970
Clams, surf, fresh shucked [4]—gallons	5,922	4,050
Clam shells, ground, poultry feed—tons	1,735	16,662

See footnotes at end of table.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Marine-shell products:		
Buttons, gross	4,639,176	$2,880,341
Novelties		536,519
Mussels, fresh water, shell products:		
Buttons, gross	14,512,880	3,502,233
Novelties		137,166
Lime, tons	1,938	4,427
Poultry feed, do	6,890	41,010
Oysters:		
Eastern:		
Fresh shucked [2], gallons	5,908,748	7,231,854
Canned, standard cases	369,045	1,548,423
Japanese:		
Fresh shucked, gallons	265,441	353,051
Canned, standard cases	69,497	322,637
Native, Pacific, fresh shucked, gallons	32,334	187,538
Shell products:		
Poultry feed, tons	250.509	1,287,440
Lime, do	45,100	113,324
Lime, "burned", do	9,277	51,510
Scallops, bay, fresh shucked [2], gallons	83,122	271,947
Scallops, sea, fresh shucked [2], do	381,798	397,933
Turtles and terrapin, meat and soup, canned, standard cases	3,204	58,232
Whales:		
Meal, meat, tons	1,349	37,505
Oil, whale, gallons	1,060,950	246,670
Oil, sperm, do	79,000	17,530
Unclassified products:		
Fillets, fresh, pounds	[9] 92,300	9,316
Fillets, frozen, do	[10] 831,670	94,503
Miscellaneous, packaged, fresh and frozen, do	[11] 2,769,901	246,034
Salted [2], do	[12] 257,342	21,652
Smoked [2], do	[13] 38,912	10,203
Canned:		
Fish for cat and dog food, standard cases	301,508	823,440
Fish cakes, etc, do	77,595	609,889
Fish flakes, do	36,540	326,372
Other, do	[14] 58,921	351,527
Acid, dry and green scrap, tons	1,574	35,384
Meal, do	12,914	564,425
Oil, gallons	[15] 76,395	195,368
Glue, do	398,860	804,688
Other byproducts		[16] 378,838
Total, fresh and frozen packaged products [2], pounds	150,592,819	20,678,362
Total, cured products [5], do	98,141,332	13,047,069
Total, canned, do	700,157,272	80,021,342
Total, byproducts		22,608,219
Grand total		136,354,992

[1] Data are for 1934 unless otherwise indicated.
[2] This item represents a combination of 1934 and 1933 data.
[3] This is usually an intermediate product and although shown in the total may also be shown in its final stage of processing elsewhere in the table.
[4] Data are for 1933.
[5] This item represents a combination of 1934, 1933, and 1931 data.
[6] This item represents a combination of 1933 and 1931 data.
[7] Data are for 1931.
[8] This item represents a combination of 1934 and 1931 data.
[9] Includes fresh fillets of bluefish, snook, Spanish mackerel, and whiting.
[10] Includes frozen fillets of groupers, lake herring, mullet, rosefish, red snapper, Spanish mackerel, squeteagues, and whiting.
[11] Includes fresh steaks of wolffish; frozen steaks of cod, swordfish, and wolffish; frozen pandressed croaker and squeteagues; frozen sticks of whiting; and fresh halibut cheeks.
[12] Includes salted barracuda, black and white sea bass, pilchard, sea herring fillets and splits, and spot; green-salted halibut; dry-salted tongues; spiced chubs; and pickled shrimp.
[13] Includes smoked bonito, cod, flounders, goosefish, halibut, herring, kingfish, mullet, smelt, and Spanish mackerel.
[14] Includes canned pickled eels; gefilte fish; ground-fish roe; haddock, finnan haddie, and chowder; herring canned for bait; tuna cocktail; conch chowder; oyster puree; pickled sea mussels; rat poison; squid; frog products; and miscellaneous canned fish and chowder.
[15] Includes miscellaneous fish oils.
[16] Includes alligator hides, isinglass, kelp products, shark fins and hides, salmon egg meal, clam meal, and mussel-shell stucco and chips.

NOTE.—Some of the above products may have been manufactured from products imported from another country; therefore, they cannot be correlated directly with the catch within the United States and Alaska.

CANNED FISHERY PRODUCTS AND BYPRODUCTS TRADE

The output of canned fishery products and byproducts in the United States and Alaska in 1934 was valued at $102,619,379. Of this total, canned products comprised $80,021,342, and byproducts, $22,598,037—an increase of 34 percent in the value of canned products and 29 percent in the value of byproducts when compared with the respective values of the same groups of commodities for the previous year.

Fishery products were canned at 387 establishments in the United States and Alaska during 1934. The combined output of these canneries amounted to 17,378,902 standard cases. The net weight of the products canned amounted to 700,157,272 pounds.

Canned fishery products or byproducts were prepared in 27 States and in Alaska during 1934. Alaska ranked first in the value of the products, accounting for 38 percent of the total, and California ranked second with 27 percent.

Canned fishery products and byproducts of the United States and Alaska, 1934

SUMMARY OF PRODUCTION: BY COMMODITIES

Product	Number of plants	Standard cases	Pounds	Value
Canned products:				
Salmon:				
United States	42	901,206	43,257,888	$8,205,947
Alaska	110	7,481,830	359,127,840	37,611,950
Sardines:				
Maine	22	1,142,730	28,568,250	3,315,190
California	20	1,970,047	94,562,256	5,481,391
Tuna and tunalike fishes	13	1,966,943	47,206,632	10,009,542
Alewives	8	18,499	887,952	54,044
Alewife roe	24	19,132	918,336	83,331
Shad	10	8,233	395,184	24,458
Shad roe	10	2,118	101,664	58,857
Mackerel	22	1,275,419	61,220,112	3,244,944
Fish flakes	3	36,540	1,753,920	326,372
Fish cakes, balls, etc	5	77,595	3,724,560	609,889
Cat and dog food	7	301,508	14,472,384	823,440
Miscellaneous fish	12	4,366	209,568	31,945
Sturgeon caviar	6	3,128	150,144	397,036
Whitefish roe and caviar	4	912	43,776	37,678
Salmon eggs (for bait)	9	5,044	242,112	128,453
Miscellaneous roe and caviar	4	16,518	792,864	116,173
Oysters	46	438,542	6,578,130	1,871,060
Shrimp	51	1,021,822	16,973,860	4,403,077
Clam products	62	[1] 633,055	16,391,520	2,713,228
Crabs	14	11,614	557,472	191,532
Terrapin products	3	52	2,496	4,606
Turtle products	3	3,152	151,296	53,626
Miscellaneous shellfish	6	38,897	1,867,056	223,573
Total	[2] 388	17,378,902	700,157,272	80,021,342

Byproducts:		*Quantity*	*Value*
Oyster-shell products	tons	306,621	$1,468,936
Fresh-water mussel-shell products			3,973,153
Marine pearl-shell products			3,416,360
Scrap, meal, etc	tons	197,424	6,087,211
Marine-animal oils	gallons	29,965,452	6,385,309
Miscellaneous byproducts			1,267,068
Total			22,598,037
Grand total			102,619,379

[1] "Cut-out" or "drained" weights of can contents are included for whole and minced clams, and gross can contents for other clam products.
[2] Exclusive of duplication.

Canned fishery products and byproducts of the United States and Alaska, 1934—Con.

VALUE OF PRODUCTION: BY STATES

State	Canned products	Byproducts	Total
Maine	$4,251,142	$323,328	$4,574,470
Massachusetts	1,092,131	1,602,779	2,709,402
Rhode Island		14,492	
Connecticut		772,001	772,001
New York	512,059	1,412,372	1,924,431
New Jersey	1,344,023	1,451,167	3,234,400
Pennsylvania		439,210	
Delaware		303,208	303,208
Maryland	266,478	596,191	862,669
Virginia	39,264	1,026,565	1,065,829
North Carolina and South Carolina	474,542	406,322	1,395,940
Georgia	515,076		
Florida	412,617	756,665	1,169,282
Alabama and Mississippi	1,804,816	80,770	1,885,586
Louisiana	2,409,369	451,852	2,861,221
Texas and Wisconsin	465,989	99,056	565,045
Missouri, Illinois, Kansas, and Indiana		78,817	78,817
Iowa		2,993,355	2,993,355
Washington	6,026,551	162,546	6,189,097
Oregon	3,015,285	35,804	3,051,089
California	19,405,810	8,235,322	27,641,132
Alaska	37,986,190	1,356,215	39,342,405
Total	80,021,342	22,598,037	102,619,379

PACK OF CANNED SALMON: STANDARD CASES

Product	Alaska							
	Southeast		Central		Western		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Chinook or king:								
1-pound tall	6,704	$37,288	20,623	$113,795	5,339	$30,952	32,666	$182,035
1-pound flat	4,633	34,426	3,609	33,695	1,972	12,226	10,214	80,347
½-pound flat	4,257	42,719	4,240	43,717	1,486	13,081	9,983	99,517
Total	15,594	114,433	28,472	191,207	8,797	56,259	52,863	361,899
Blueback, red or sockeye:								
1-pound tall	70,298	459,108	688,365	3,852,068	1,807,872	11,925,575	2,466,535	16,236,751
1-pound flat	11,904	92,854	58,589	428,947	2,937	22,338	73,430	544,139
½-pound flat	22,196	220,224	62,516	615,161	3,339	32,379	88,051	867,764
Total	104,398	772,186	709,470	4,896,176	1,814,148	11,980,292	2,628,016	17,648,654
Silver or coho:								
1-pound tall	146,634	755,434	74,196	379,374	1,219	6,273	222,049	1,141,081
1-pound flat	6,826	38,958	1,457	7,701			8,283	46,659
½-pound flat	5,067	40,540	718	5,470			5,785	46,010
Total	158,527	834,932	76,371	392,545	1,219	6,273	236,117	1,233,750
Humpback or pink:								
1-pound tall	2,593,066	10,633,959	1,198,707	4,826,930	1,959	8,132	3,793,732	15,469,021
1-pound flat	1,621	7,134	47	188			1,668	7,322
½-pound flat	27,675	182,478	1,118	6,981			28,793	189,459
Total	2,622,362	10,823,571	1,199,872	4,834,099	1,959	8,132	3,824,193	15,665,802
Chum or keta:								
1-pound tall	391,975	1,422,980	313,172	1,138,195	33,196	127,383	738,343	2,688,558
½-pound flat	2,237	12,941	61	346			2,298	13,287
Total	394,212	1,435,921	313,233	1,138,541	33,196	127,383	740,641	2,701,845
Grand total	3,295,093	13,981,043	2,327,418	11,452,568	1,859,319	12,178,339	7,481,830	37,611,950

Canned fishery products and byproducts of the United States and Alaska, 1934—Con

PACK OF CANNED SALMON: STANDARD CASES—Continued

Product	United States						Grand total, Alaska and United States	
	Washington		Oregon		Total			
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Chinook or king:								
1-pound tall	14,605	$80,945	33,612	$142,710	48,217	$223,655	80,883	$405,690
1-pound oval	174	3,654	383	8,043	557	11,697	557	11,697
1-pound flat	15,338	132,310	39,761	339,169	55,099	471,479	65,313	551,826
½-pound oval			1,411	36,686	1,411	36,686	1,411	36,686
½-pound flat	43,990	549,222	109,383	1,333,195	153,373	1,882,417	163,356	1,981,934
¼-pound flat			12,344	178,619	12,344	178,619	12,344	178,619
Total	74,107	766,131	196,894	2,038,422	271,001	2,804,553	323,864	3,166,452
Blueback, red or sockeye:								
1-pound tall	87,153	606,585			87,153	606,585	2,553,688	16,843,336
1-pound flat	61,095	535,192			61,095	535,192	134,525	1,079,331
½-pound flat	205,923	2,473,000	3,603	51,883	209,526	2,524,883	297,577	3,392,647
¼-pound flat	998	15,968	1,539	28,318	2,537	44,286	2,537	44,286
Total	355,169	3,630,745	5,142	80,201	360,311	3,710,946	2,988,327	21,359,600
Silver or coho:								
1-pound tall	14,350	73,767	2,642	13,210	16,992	86,977	239,041	1,228,058
1-pound flat	17,847	107,082	8,720	52,320	26,567	159,402	34,850	206,061
½-pound oval			274	3,836	274	3,836	274	3,836
½-pound flat	37,197	302,610	26,299	210,392	63,496	513,002	69,281	559,012
¼-pound flat	2,473	25,719	25,764	280,828	28,237	306,547	28,237	306,547
Total	71,867	509,178	63,699	560,586	135,566	1,069,764	371,683	2,303,514
Humpback or pink:								
1-pound tall	1,130	4,520			1,130	4,520	3,794,862	15,473,541
1-pound flat	97	427			97	427	1,765	7,749
½-pound flat	2,346	14,545			2,346	14,545	31,139	204,004
Total	3,573	19,492			3,573	19,492	3,827,766	15,685,294
Chum or keta:								
1-pound tall	75,075	271,315	24,302	87,187	99,377	358,502	837,720	3,047,060
1-pound flat	43	172	470	1,880	513	2,052	513	2,052
½-pound flat	13,132	76,210	1,651	10,732	14,783	86,942	17,081	100,229
Total	88,250	347,697	26,423	99,799	114,673	447,496	855,314	3,149,341
Steelhead:								
1-pound tall			1,185	4,740	1,185	4,740	1,185	4,740
1-pound flat	2,796	17,335	855	5,301	3,651	22,636	3,651	22,636
½-pound oval			3,128	45,043	3,128	45,043	3,128	45,043
½-pound flat	318	2,544	4,088	32,704	4,406	35,248	4,406	35,248
¼-pound flat			3,712	46,029	3,712	46,029	3,712	46,029
Total	3,114	19,879	12,968	133,817	16,082	153,696	16,082	153,696
Grand total	596,080	5,293,122	305,126	2,912,825	901,206	8,205,947	8,383,036	45,817,897

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of 48 1-pound cans to the case. Salmon were canned at 32 plants in Washington, 10 in Oregon, and 110 in Alaska.

PACK OF CANNED SARDINES

Sardines (herring)	Maine		Sardines (pilchard)	California	
Quarters, ¼-pound (100 cans):	*Cases*	*Value*	1-pound oval (48 cans):	*Cases*	*Value*
In cottonseed oil	[1] 984,058	[1] $2,864,464	In cottonseed oil	2,891	$7,598
In mustard	90,985	285,315	In mustard	276,426	732,243
In other sauces or oils	7,252	42,622	In tomato sauce	1,312,263	3,562,719
Three-quarters, ¾-pound (48 cans):			In natural oil	25,793	66,835
In mustard	41,969	122,789	In other sauces or oils	13,382	47,700
			½-pound oval (48 cans):		
			In various sauces or oils	15,417	40,147
			1-pound tall (48 cans):		
			In natural oil	164,271	369,394
			In other sauces or oils	12,231	27,519
			5-ounce Eastern oyster (100 cans):		
			In natural oil	165,418	424,664
			In other sauces or oils	68,098	183,798
			Other sizes:		
			In various sauces or oils (standard cases)	3,063	18,774
Total	1,124,264	3,315,190	Total	2,059,253	5,481,391
Total (standard cases)	1,142,730		Total (standard cases)	1,970,047	

[1] Includes a small amount packed in 6-ounce cans, 100 to the case, which has been converted to the basis of 4-ounce cans, 100 to the case.

NOTE.—"Standard cases" represent the various sized cases converted to the uniform basis of one hundred ¼-pound cans to the case of sardines (herring), and forty-eight 1-pound cans to the case of sardines (pilchard). Sardines were canned at 22 plants in Maine and 20 in California.

Canned fishery products and byproducts of the United States and Alaska, 1934—Con

PACK OF CANNED TUNA AND TUNALIKE FISHES IN CALIFORNIA

Size	Albacore		Yellowfin		Bluefin		Striped	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound (48 cans)	1,872	$7,358	132,582	$472,318	26,488	$86,299	[5] 24,722	[5] $78,869
¼-pound (100 cans)								
½-pound (48 cans)	66,857	390,900	759,334	3,987,914	259,324	1,171,559	183,750	833,989
1-pound (48 cans)	[6] 7,140	[6] 77,477	[6] 75,128	[6] 717,451	[6] 13,630	[6] 112,681	11,445	93,212
Flakes (standard cases)	8,526	36,584	[7] 124,891	[7] 502,820	12,369	50,194	[7] 7,358	[7] 28,729
Total	84,395	512,319	1,091,935	5,680,503	311,811	1,420,733	227,275	1,034,799
Total (standard cases)	90,599		1,100,772		312,198		226,359	

Size	"Tonno"		Bonito		Yellowtail		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound (48 cans)			184	$557			185,848	$645,401
¼-pound (100 cans)	145,585	$981,493	2,875	18,104			148,460	999,597
½-pound (48 cans)	15,843	100,825	43,190	174,076	8,464	$33,852	1,336,762	6,693,115
1-pound (48 cans)			5,903	41,861	1,492	10,420	114,738	1,053,102
Flakes (standard cases)							153,144	618,327
Total	161,428	1,082,318	52,152	234,598	9,956	44,272	1,938,952	10,009,542
Total (standard cases)	167,484		58,083		11,448		1,966,943	

[5] Includes the pack in ¼-pound cans, 100 to the case, which has been converted to the equivalent of ¼-pound cans, 48 to the case.

[6] Includes the pack in 4-pound cans, 12 to the case, which has been converted to the equivalent of 1-pound cans, 48 to the case.

[7] Includes the pack of creamed tuna flakes, in ¾-pound cans, 48 to the case, which has been converted to the equivalent of ½-pound cans, 48 to the case.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight ½-pound cans to the case. Tuna and tunalike fishes were canned at 13 plants in California.

PACK OF CANNED ALEWIVES AND ALEWIFE ROE: STANDARD CASES

Product	Maryland		Virginia and North Carolina		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
Alewives	17,951	$52,585	[8] 548	[8] $1,459	18,499	$54,044
Alewife roe	5,525	29,917	13,607	53,414	19,132	83,331
Total	23,476	82,502	14,155	54,873	37,631	137,375

[8] This entire pack was canned in Virginia.

PACK OF CANNED ALEWIVES AND ALEWIFE ROE: ACTUAL CASES

Product and size	Cases	Value
Alewives:		
16-ounce (48 cans)	15,052	$44,651
10-ounce (48 cans) and 17- and 19-ounce (24 cans)	5,959	9,393
Total		54,044
Alewife roe:		
8-ounce (48 cans)	7,039	19,729
7½- and 10-ounce (48 cans)	1,519	2,660
10-, 16-, and 19-ounce (24 cans)	6,447	13,668
17-ounce (24 cans)	22,644	47,274
Total		83,331
Grand total		137,375

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 1-pound cans to the case. Alewives or alewife roe were canned at 7 plants in Maryland, 15 in Virginia, and 3 in North Carolina.

Canned fishery products and byproducts of the United States and Alaska, 1934— Con.

PACK OF CANNED OYSTERS: STANDARD CASES

State	Cases	Value	State	Cases	Value
New Jersey, Maryland, Georgia, and Alabama	19,323	$80,717	Louisiana	49,133	$201,793
South Carolina	91,752	392,551	Washington and Oregon	69,497	322,637
Florida	12,980	51,331	Total	438,542	1,871,060
Mississippi	195,857	822,031			

PACK OF CANNED OYSTERS: ACTUAL CASES

Size	Cases	Value	Size	Cases	Value
4-ounce (48 cans)	32,746	$125,976	8-ounce (48 cans)	23,680	$170,248
5-ounce (48 cans)	324,444	1,360,080	10-ounce (24 cans)	36,356	151,276
6-ounce (48 cans)	2,627	12,694			
8-ounce (24 cans)	13,131	50,786	Total		1,871,060

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 5-ounce cans to the case. Oysters were canned at 1 plant in New Jersey, 1 in Maryland, 4 in South Carolina, 1 in Georgia, 3 in Florida, 2 in Alabama, 16 in Mississippi, 8 in Louisiana, 9 in Washington, and 1 in Oregon.

PACK OF CANNED CLAMS AND CLAM PRODUCTS

Item and State	Cases	Value	Item and State	Cases	Value
Razor clams (Washington, Oregon, and Alaska):			Hard clams—Continued.		
Whole:			Juice:		
½-pound, 4-ounce (48 cans)	76	$912	No. 1, 10-ounce (48 cans)	1,705	$9,551
No. 1, 5-ounce (48 cans)	617	5,234	No. 10, 102-ounce (6 cans)	2,170	6,835
1-pound, 8-ounce (48 cans)	294	3,848	Other sizes (standard cases)	4,141	21,519
Minced:			Cocktail;		
½-pound, 4-ounce (48 cans)	54,492	348,664	All sizes (standard cases)	1,486	10,385
No. 1, 5-ounce (48 cans)	4,984	33,953	Broth and nectar:		
1-pound, 8-ounce (48 cans)	81	624	All sizes (standard cases)	4,703	24,911
No. 2, 10-ounce (24 cans)	452	3,592			
Juice:			Total	398,432	1,689,234
All sizes (standard cases)	126	378			
			Total (standard cases)	397,924	
Total	61,117	397,205			
			Soft clams (Maine and Massachusetts):		
Total (standard cases)	50,429		Whole:		
			No. 1, 5-ounce (48 cans)	62,837	230,727
Hard clams (Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Florida, Washington, and Alaska)[9]			1 pound, 8-ounce (48 cans)	7,573	39,968
			No. 2, 10-ounce (24 cans)	14,570	49,214
			Other sizes (standard cases)	347	1,490
Whole:			Chowder:		
No. 1, 5-ounce (48 cans)	2,064	16,130	No. 1, 10-ounce (48 cans)	30,257	106,726
1-pound, 8-ounce (48 cans)	2,108	14,348	17-ounce (24 cans)	18,066	67,105
No. 2, 10-ounce (24 cans)	4,608	27,347	No. 10, 102-ounce (6 cans)	1,450	6,268
No. 10, 52-ounce (6 cans)	5,344	25,662	Other sizes (standard cases)	34,565	89,321
Other sizes (standard cases)	913	6,058	Bouillon and juice:		
Minced:			All sizes (standard cases)	12,804	35,970
½-pound, 4-ounce (48 cans)	8,799	27,640			
No. 1, 5-ounce (48 cans)	1,769	8,511	Total	182,469	626,789
No. 10, 52-ounce (6 cans)	3,027	26,553			
Other sizes (standard cases)	2,520	15,301	Total (standard cases)	184,702	
Chowder:					
No. 1, 10-ounce (48 cans)	144,409	549,277	Grand total (standard cases)	633,055	2,713,228
33-ounce (12 cans)	20,094	59,745			
No. 10, 102-ounce (6 cans)	1,441	13,971			
Other sizes (standard cases)	187,131	825,490			

[9] Includes a small amount of coquina broth packed in Florida.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of 48 No. 1, 5-ounce cans to the case for whole and minced clams; and 48 No. 1, 10-ounce cans to the case for other clam products. Razor clams were canned at 8 plants in Washington, 4 in Oregon, and 9 in Alaska; hard clam products at 1 plant in Massachusetts, 1 in Rhode Island, 2 in New York, 2 in New Jersey, 1 in Pennsylvania, 2 in Maryland, 3 in Florida, 6 in Washington, and 1 in Alaska; soft clam products, at 20 plants in Maine, and 1 in Massachusetts; and coquina clam products, at 1 plant in Florida.

Canned fishery products and byproducts of the United States and Alaska, 1934—Con.

PACK OF CANNED SHRIMP: STANDARD CASES

State	Dry pack (in tins)		Wet pack (in tins)		Wet pack (in glass)		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
South Carolina, Alabama, and Texas	56,687	$231 295	123,699	$497,087	[10]	[10]	180,386	$728,382
Georgia	19,771	87,000	54,351	228,896	[10]46,296	[10]$310,721	120,418	626,617
Florida	1,195	5,463	33,160	142,400	14,212	87,025	48,567	234,888
Mississippi	47,203	196,640	113,916	474,873			161,119	671,513
Louisiana	165,175	714,387	346,131	1,427,011	[10]	[10]	511,306	2,141,398
Alaska					26	279	26	279
Total	290,031	1,234,785	671,257	2,770,267	60,534	398,025	1,021,822	4,403,077

PACK OF CANNED SHRIMP: ACTUAL CASES

Size	Cases	Value	Size	Cases	Value
In tins, dry:			In glass, wet:		
4-ounce (48 cans)	8,035	$28,786	4-ounce (24 jars)	7,013	$22,054
5-ounce (48 cans)	267,140	1,116,643	5¾-ounce (24 jars)	29,515	94,976
8¼-ounce (24 cans)	19,429	87,139	6-ounce (24 jars)	77,034	270,069
Other sizes (standard cases)	434	2,217	Other sizes (standard cases)	3,150	10,926
In tins, wet:					
5¾-ounce (48 cans)	664,635	2,737,798	Total		4,403,077
9¾-ounce (24 cans)	7,157	29,603			
Other sizes (standard cases)	554	2,866			

[10] The pack of shrimp in glass for Louisiana and Texas has been included with that of Georgia to avoid disclosure of private enterprise.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of 48, 5-ounce cans to the case in dry pack and 48, 5¾-ounce cans to the case in the wet pack. Shrimp were canned at 1 plant in South Carolina, 6 in Georgia, 5 in Florida, 2 in Alabama, 15 in Mississippi, 20 in Louisiana, 2 in Texas, and 1 in Alaska.

PACK OF MISCELLANEOUS CANNED FISHERY PRODUCTS: STANDARD CASES

Product	Atlantic and Gulf coasts [11]		Pacific coast (including Alaska)		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
Mackerel	24,868	$157,140	1,250,551	$3,087,804	1,275,419	$3,244,944
Shad			8,233	24,458	8,223	24,458
Shad roe			2,118	58,857	2,118	58,857
Fish flakes [12]	36,540	326,372			36,540	326,372
Cat and dog food	13,756	27,850	287,752	795,590	301,508	823,440
Fish cakes, balls, etc	77,595	609,889			77,595	609,889
Miscellaneous fish [13]	2,949	25,135	1,417	6,810	4,366	31,945
Sturgeon caviar	[14] 3,128	[14] 397,036	[14]	[14]	3,128	397,036
Whitefish roe and caviar	912	37,678			912	37,678
Salmon eggs for bait			5,044	128,453	5,044	128,453
Miscellaneous roe and caviar [15]	16,518	116,173			16,518	116,173
Crabs	[16]	[16]	[16] 11,614	[16] 191,532	11,614	191,532
Terrapin products	52	4,606			52	4,606
Turtle products	3,152	53,626			3,152	53,626
Miscellaneous shellfish, etc. [17]	36,983	212,924	1,914	10,649	38,897	223,573
Total	216,453	1,968,429	1,568,643	4,304,153	1,785,096	6,272,582

[11] Includes 1 firm producing whitefish caviar in Wisconsin.
[12] Tuna flakes are not included in this table, but are included in the table for canned tuna and tunalike fishes.
[13] Includes finnan haddie, smoked king salmon, Dolly Varden trout, gefilte fish, bait herring, pickled eels, fish chowder, tuna cocktail, and fish prepared for poisoning rats.
[14] The production of one firm in Washington is included with the Atlantic and Gulf coasts.
[15] Includes salmon roe and caviar and ground-fish roe.
[16] The production of 1 firm in Virginia is included with the Pacific coast.
[17] Includes pickled mussels, squid, oyster purée, and conch and frog products.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of 48, 1-pound cans to the case.

Canned fishery products and byproducts of the United States and Alaska, 1934—Con.

PRODUCTION OF OYSTER-SHELL PRODUCTS [18]

State	Crushed oyster-shell for poultry feed		Oyster-shell lime		Total	
	Tons	*Value*	*Tons*	*Value*	*Tons*	*Value*
Rhode Island and Delaware	1,151	$9,988	324	$1,349	1,475	$11,337
New Jersey	4,951	41,104	2,083	8,986	7,034	50,090
Pennsylvania	2,978	26,192	1,169	4,208	4,147	30,400
Maryland	35,602	178,443	21,346	35,483	56,948	213,926
Virginia	10,689	57,235	[19] 18,653	[19] 78,296	29,342	135,531
North Carolina and South Carolina	3,841	26,667	[20] 1,550	[20] 5,975	5,391	32,642
Florida	54,477	264,403	([21])	([20])	54,477	264,403
Alabama, Louisiana, and Texas	104,616	512,318	8,197	27,538	112,813	539,856
Mississippi	14,029	67,745	([21])	([21])	14,029	67,745
Washington	3,595	33,618			3,595	33,618
Oregon and California	16,315	86,389	[21] 1,055	[21] 2,999	17,370	89,388
Total	252,244	1,304,102	54,377	164,834	306,621	1,468,936

[18] The production in Washington was from both crushed clam shells and oyster shells.
[19] Of this amount 9,027 tons valued at $50,135 were reported as "burned" lime.
[20] The production of oyster-shell lime in Florida has been included with that of North Carolina and South Carolina.
[21] The production of oyster-shell lime in Mississippi has been included with that of Oregon and California.

NOTE.—The above crushed-shell products were prepared at 2 plants in Rhode Island, 9 in New Jersey, 4 in Pennsylvania, 1 in Delaware, 5 in Maryland, 8 in Virginia, 4 in North Carolina, 2 in South Carolina, 3 in Florida, 2 in Alabama, 4 in Mississippi, 1 in Louisiana, 3 in Texas, 6 in Washington, 1 in Oregon, and 5 in California.

PRODUCTION OF FRESH-WATER MUSSEL-SHELL PRODUCTS

Item	Iowa		New York		Other States		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Pearl buttons, gross	11,422,475	$2,849,520	3,438,542	$855,579	392,800	$80,300	15,253,817	$3,785,399
Crushed shell for poultry feed, tons	6,340	37,514			540	3,417	6,880	40,931
Lime, do	1,600	3,925	113	277	225	225	1,938	4,427
Other products [22]		102,396				40,000		142,396
Total		2,993,355		855,856		123,942		3,973,153

[22] Includes stucco, colored shells, and "pearl novelties."

NOTE.—Mussel shells utilized in the above production amounted to 49,456,000 pounds, valued at $646,685. Shells were taken in 18 States in the Mississippi River Valley and Great Lakes region. The producing States in order of their importance were Arkansas, which contributed 22 percent of the total quantity; Illinois, 20 percent; Indiana, 14 percent; Tennessee, 12 percent; Michigan and Kentucky, each 6 percent; Iowa, Wisconsin, and Ohio, each 4 percent; Minnesota, 3 percent; Texas, 2 percent; Alabama, Mississippi, and Missouri, each 1 percent; and Kansas, Oklahoma, Louisiana, and South Dakota, each less than ½ of 1 percent.

PRODUCTION OF MARINE PEARL-SHELL PRODUCTS [23]

Item	Maine, Massachusetts, Rhode Island, and Connecticut		New York		New Jersey	
	Gross	*Value*	*Gross*	*Value*	*Gross*	*Value*
Pearl buttons	1,481,853	$824,762	512,531	$391,109	1,267,703	$955,660
Novelties [24]		242,618		44,066		130,619
Total		1,067,380		435,175		1,086,279

Item	Pennsylvania, Maryland, and Florida		Oregon and California		Total	
	Gross	*Value*	*Gross*	*Value*	*Gross*	*Value*
Pearl buttons	1,377,089	$708,810			4,639,176	$2,880,341
Novelties [24]		73,400		$45,316		536,019
Total		782,210		45,316		3,416,360

[23] Produced principally from imported shells.
[24] Includes buckles, inlays for jewelry, knife handles, lamps, handles of manicure sets, etc.

NOTE.—Marine pearl-shell products were manufactured at 1 plant in Maine, 2 in Massachusetts, 1 in Rhode Island, 6 in Connecticut, 10 in New York, 20 in New Jersey, 2 in Pennsylvania, 1 in Maryland, 3 in Florida, 2 in Oregon, and 2 in California.

Canned fishery products and byproducts of the United States and Alaska, 1934—Con.

FISH UTILIZED AND PRODUCTS OF THE MENHADEN INDUSTRY

State	Menhaden utilized	Products						
		Dry scrap and meal		Acidulated scrap		Oil		Total
	Number	*Tons*	*Value*	*Tons*	*Value*	*Gallons*	*Value*	*Value*
New York, New Jersey, Delaware, and Georgia	241,912,000	7,672	$255,940	12,116	$209,764	1,396,190	$283,828	$749,532
Virginia	251,732,000	17,645	565,354	1,027	15,777	1,253,924	248,401	829,532
North Carolina	100,582,000	4,210	144,097	4,768	85,800	407,000	72,960	302,857
Florida	178,018,000	8,408	282,306	4,140	70,218	555,250	100,468	452,992
Total	[25]772,244,000	[26]37,935	[26]1,247,697	22,051	381,559	3,612,364	705,657	2,334,913

[25] 463,346,000 pounds.
[26] Of this production, 32,450 tons, valued at $1,040,745, were reported as dry scrap, and 5,485 tons valued at $206,952 as fish meal.

NOTE.—The menhaden factories were located as follows: 1 in New York, 2 in New Jersey, 2 in Delaware, 10 in Virginia, 7 in North Carolina, 1 in Georgia, and 4 in Florida.

PRODUCTION OF MISCELLANEOUS BYPRODUCTS

Product	Atlantic and Gulf coasts [27]		Pacific coast (including Alaska)		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Dried scrap:						
Alewife, tons	520	$16,508			520	$16,508
Herring, do	1,297	38,122			1,297	38,122
Blue crab, do	1,183	19,485			1,183	19,485
King crab, do	370	14,530			370	14,530
Miscellaneous [28], do	1,609	37,134			1,609	37,134
Meal:						
Ground fish "white fish", do	10,272	485,124			10,272	485,124
Herring (Alaska), do			13,955	$442,217	13,955	442,217
Herring (Maine), do	1,224	34,741			1,224	34,741
Mackerel, do			3,323	98,392	3,323	98,392
Pilchard, do			89,280	2,878,269	89,280	2,878,269
Salmon, do			1,737	46,468	1,737	46,468
Tuna, do			6,705	191,015	6,705	191,015
Crab, blue and king, do	568	8,322			568	8,322
Shrimp, do	1,234	21,752	149	2,980	1,383	24,732
Whale, meat, do			945	27,405	945	27,405
Whale, bone, do			404	10,100	404	10,100
Miscellaneous [29], do	801	32,090	1,862	53,301	2,663	85,391
Oil:						
Alewife, gallons	13,250	1,505			13,250	1,505
Cod, do	51,132	22,149			51,132	22,149
Cod liver, do	94,312	56,643			94,312	56,643
Herring (Alaska), do			3,710,348	634,059	3,710,348	634,059
Herring (Maine), do	61,751	7,780			61,751	7,780
Mackerel, do			157,571	25,533	157,571	25,533
Pilchard, do			20,845,171	4,413,609	20,845,171	4,413,609
Salmon, do			202,458	57,306	202,458	57,306
Whale:						
Sperm, do			79,000	17,530	79,000	17,530
Other, do			1,060,950	246,670	1,060,950	246,670
Miscellaneous [30], do	8,226	101,987	68,919	94,881	77,145	196,868
Liquid glue, do	[31]398,860	[31]804,688	([31])	([31])	398,860	804,688
Pearl essence, pounds	13,805	103,475			13,805	103,475
Miscellaneous byproducts [32]		39,380		319,525		358,905
Total		1,845,415		9,559,260		11,404,675

[27] Includes the production of burbot liver oil in Wisconsin.
[28] Includes ground-fish and miscellaneous dry scrap, as well as the production of miscellaneous acid scrap by 1 firm in Virginia.
[29] Includes salmon egg, clam, and miscellaneous meal.
[30] Includes tuna, shark, and miscellaneous oil.
[31] A quantity of liquid glue produced by 1 firm in California is included with the production of liquid glue of the Atlantic and Gulf coasts.
[32] Includes isinglass, shark skins, and fins, kelp products, and miscellaneous novelties.

NOTE.—The oils produced on the Pacific coast are reported in trade gallons (7½ pounds) and those produced on the Atlantic and Gulf coasts are reported in United States gallons (about 7.74 pounds).

FROZEN FISH TRADE [4]

FISH FROZEN

During 1934 the freezing plants which reported their activities to the Government, froze 133,493,952 pounds of fishery products. These products, at the time they were held in cold-storage plants, were estimated to be valued at about $12,000,000. Compared with the output in 1933 this was an increase of 39 percent. Five species or groups of species accounted for 62 percent of the total amount frozen. In order of their importance they were: Cod, haddock (including haddock fillets), hake, and pollock, which accounted for 19 percent of the total; halibut, 12 percent; salmon and mackerel, each, 11 percent; and whiting, 9 percent. Of the products frozen in considerable quantities during the year were included sea herring, shellfish, butterfish, and croaker.

Production of frozen fishery products, 1934

BY SPECIES AND MONTHS

Species	Month ended the 15th of—						
	January	February	March	April	May	June	July
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	27,161	4,480	3,136	1,083	20,679	58,706	61,605
Butterfish (all trade sizes)	5,711	4,572	6,259	36	13,882	671,421	1,098,917
Catfish	26,609	13,313	8,272	37,082	110,750	114,022	63,058
Cisco (Lake Erie)					403	6,322	7,529
Cisco (lake herring), including bluefin, blackfin, and chub	23,281	38,319	4,804	983	3,394	25,236	111,266
Cisco (tullibees, Canadian lakes)	33,026	2,262	2,961	4,612		6,000	31,767
Cod, haddock, hake, and pollock	160,286	128,590	107,283	797,340	628,482	504,516	850,251
Croaker	4,672	6,429	3,752	5,429	561,872	39,661	284,473
Flounders	16,331	44,742	15,000	17,490	155,407	238,109	194,356
Haddock fillets	618,594	606,120	704,580	1,828,521	2,037,425	2,634,211	1,981,256
Halibut (all trade sizes)			165,798	2,401,449	2,448,821	3,081,236	2,963,820
Herring, sea (including alewives and bluebacks)	17,388	14,878	223,584	270,178	235,462	1,657,740	1,218,797
Lake trout	17,638	11,591	3,690	327	57,206	189,459	156,544
Mackerel (except Spanish)	60,915	85,951	64,433	21,122	711,637	1,957,503	1,950,639
Pike, blue and sauger	18,412	1,632	90	22	159,671	382,907	64,997
Pike, yellow or wall-eyed	12,904	22,392	8,874		72,053	48,914	7,620
Pike (including pickerel, jacks, and yellow jack)	4,288	2,219	1,232	9,042	21,807	23,772	11,294
Sablefish (black cod)	12,641	22,704	21,912	14,386	46,609	31,497	51,583
Salmon, chinook or king	18,342		11,515	1,070	17,183	500,502	402,485
Salmon, silver or coho	25,270	29,520	61,644	2,105	11,401	67,176	391,459
Salmon, fall and pink	103,207	233,800	38,041	900	7,529	2,417	1,244
Salmon, steelhead trout	20,245	10,441	30,209	5,825	3,469	9,015	202,903
Salmon, red or sockeye	71,087	219,970	70,741	17,292	17,119	19,539	41,448
Scup (porgies)	2,391		100		13,722	60,521	158,312
Shad and shad roe	22,568	8,983	10,779	687	51,217	79,956	300,283
Shellfish	157,234	240,158	219,769	150,508	613,800	889,348	292,744
Smelts, eulachon, etc	146,061	141,875	174,564	418,595	87,456	26,714	33,910
Squid	5,015			6,410	113,001	748,713	188,820
Sturgeon and spoonbill cat	2,705	3,640	838	314	68,752	33,904	17,365
Suckers	6,595	4,288	7,311		7,372	12,231	1,436
Swordfish	(1)	(1)	(1)	(1)	(1)	(1)	20,627
Weakfish (including southern "sea trout")	34,637	2,901	2,088		45,074	140,517	221,711
Whitefish	28,754	99,163	22,393	31,562	55,576	32,338	81,637
Whiting	37,839	222,989	136,919	72,885	202,942	2,428,310	5,195,602
Miscellaneous fish	665,741	511,711	545,115	795,077	1,832,794	1,519,059	1,420,871
Total	2,408,148	2,739,633	2,677,686	6,912,332	10,433,967	18,241,492	20,082,629

[1] Prior to July 15, 1934, swordfish were included with "Miscellaneous fish."

[4] The statistics in this section have been furnished by the Bureau of Agricultural Economics, Department of Agriculture.

Production of frozen fishery products, 1934—Continued

BY SPECIES AND MONTHS—Continued

Species	Month ended the 15th of—					
	August	September	October	November	December	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	30,872	237,729	290,311	119,760	20,063	875,585
Butterfish (all trade sizes)	82,830	76,072	37,847	312,808	78,864	2,389,219
Catfish	26,688	31,885	9,170	22,614	40,465	503,928
Cisco (Lake Erie)	3,089	1,008	556	29,366	47,267	95,540
Cisco (lake herring), including bluefin, blackfin, and chub	160,358	145,008	113,434	289,757	770,347	1,686,187
Cisco (tullibees, Canadian lakes)	7,500	6,859	5,582		3,949	104,528
Cod, haddock, hake, and pollock	539,449	469,591	727,158	906,741	2,648,486	8,468,173
Croaker	851,721	233,998	65,155	19,792	49,805	2,126,759
Flounders	51,726	24,086	45,907	80,539	134,080	1,018,373
Haddock fillets	1,874,151	2,082,872	1,553,296	427,821	1,162,263	17,511,110
Halibut (all trade sizes)	2,280,711	1,177,260	632,398	962,922	195,508	16,309,923
Herring, sea (including alewives and bluebacks)	475,231	435,847	289,303	442,353	384,668	5,665,429
Lake trout	75,864	69,572	170,502	395,384	167,313	1,315,090
Mackerel (except Spanish)	1,932,496	5,298,252	1,902,257	222,743	39,769	14,247,717
Pike, blue and sauger	24,929	28,715	40,242	326,911	312,859	1,361,387
Pike, yellow or wall-eyed	4,881	33,232	23,818	30,058	6,950	271,696
Pike (including pickerel, jacks, and yellow jack)	5,572	23,490	10,928	23,555	8,622	145,821
Sablefish (black cod)	64,424	170,797	744,055	581,647	34,634	1,796,889
Salmon, chinook or king	728,309	940,647	865,899	196,372	16,790	3,699,114
Salmon, silver or coho	1,811,881	2,846,711	1,280,917	646,093	83,177	7,257,354
Salmon, fall and pink	27,839	152,740	497,993	1,854,681	52,239	2,972,630
Salmon, steelhead trout	268,172	113,312	20,989	26,829	4,422	715,831
Salmon, red or sockeye	18,909	24,398	26,636	36,753	27,126	591,018
Scup (porgies)	130,794	55,671	3,937	5,963	102	431,513
Shad and shad roe	22,053	22,219	2,194	16,337	12,226	549,502
Shellfish	490,456	432,134	532,944	798,523	449,302	5,266,920
Smelts, eulachon, etc	40,744	67,890	55,724	100,282	19,544	1,313,359
Squid	223,414	34,862	115,408	35,145	7,413	1,478,201
Sturgeon and spoonbill cat	28,625	24,716	23,066	13,353	6,533	223,811
Suckers	5,921	209	4,047	13,332	1,390	64,132
Swordfish	176,931	185,360	37,500	106,211	9,543	536,172
Weakfish (including southern "sea trout")	279,459	131,835	227,322	180,896	18,160	1,284,600
Whitefish	152,380	35,235	230,576	158,651	79,054	1,007,319
Whiting	2,186,953	768,234	272,652	116,009	127,970	11,769,304
Miscellaneous fish	2,297,916	2,103,460	1,866,600	2,552,645	2,328,829	18,439,818
Total	17,383,248	18,485,916	12,726,323	12,052,846	9,349,732	133,493,952

BY GEOGRAPHICAL SECTIONS AND SPECIES [2]

[Expressed in thousands of pounds; that is, 000 omitted]

Species	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
Bluefish (all trade sizes)	59	739	1	37		40		876
Butterfish (all trade sizes)	462	1,895	16	10	6			2,389
Catfish	158	3	8	45	218	72		504
Cisco (Lake Erie)		96						96
Cisco (lake herring), including bluefin, blackfin, and chub		248		1,170	268			1,686
Cisco (tullibees, Canadian lakes)	33	54		12	6			105
Cod, haddock, hake, and pollock	7,068	453	3	287	94	355	208	8,468
Croaker		498	1,553	64		12		2,127
Flounders	422	545		6	14	3	28	1,018
Haddock fillets	16,590	58	31	755	69		8	17,511
Halibut (all trade sizes)	139	275	20	796	57	56	14,967	16,310
Herring, sea (including alewives and bluebacks)	4,081	265	28	509	12	17	753	5,665
Lake trout	3	243	19	929	120	1		1,315

[2] New England includes the 6 States of that section; Middle Atlantic—New York, New Jersey, and Pennsylvania: South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; North Central, East—Ohio, Indiana, Illinois, Michigan, and Wisconsin; North Central, West—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South Central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas; and Pacific—Washington, Oregon, California, and Alaska.

Production of frozen fishery products, 1934—Continued

BY GEOGRAPHICAL SECTIONS AND SPECIES—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
Mackerel (except Spanish)	12,138	1,766	24	134	19	19	148	14,248
Pike, blue and sauger		930		431				1,361
Pike, yellow or wall-eyed		98		140	33	1		272
Pike (including pickerel, jacks, and yellow jack)		24		34	88			146
Sablefish (black cod)		9		42	12		1,734	1,797
Salmon, chinook or king	41	63		18	31		3,546	3,699
Salmon, silver or coho	27	141		30	39		7,020	7,257
Salmon, fall and pink	1	34		13	23		2,902	2,973
Salmon, steelhead trout		50	6	5			655	716
Salmon, red or sockeye		23		36	17	5	510	591
Scup (porgies)	50	382						432
Shad and shad roe	343	111		37		2	56	549
Shellfish	638	1,832	153	934	650	32	1,028	5,267
Smelts, eulachon, etc	61	543	3	427	5	3	271	1,313
Squid	1,230	201		1			46	1,478
Sturgeon and spoonbill cat		134		13	46	17	14	224
Suckers		1		50		13		64
Swordfish [1]	404	1		1			130	536
Weakfish (including southern "sea trout")	1	1,148	136					1,285
Whitefish	16	700	1	256	30	3	1	1,007
Whiting	10,155	1,085	27	95	292	115		11,769
Miscellaneous fish	4,340	1,715	1,737	4,702	1,021	1,898	3,027	18,440
Total	58,460	16,363	3,766	12,019	3,170	2,664	37,052	133,494

[1] Prior to July 15, 1934, swordfish were included with "Miscellaneous fish."

BY GEOGRAPHICAL SECTIONS AND MONTHS

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
January	759	544	197	372	95	109	332	2,408
February	631	407	56	348	310	181	807	2,740
March	711	394	3	396	259	258	657	2,678
April	2,969	119	12	695	110	137	2,870	6,912
May	3,505	1,550	856	947	295	157	3,124	10,434
June	9,358	2,571	155	1,614	465	225	3,853	18,241
July	12,053	2,443	355	729	164	303	4,036	20,083
August	7,795	1,616	1,399	972	129	190	5,282	17,383
September	9,351	1,437	372	1,110	164	251	5,801	18,486
October	4,824	1,784	103	1,142	182	361	4,330	12,726
November	2,132	2,421	123	1,678	387	277	5,035	12,053
December	4,372	1,077	135	2,016	610	215	925	9,350
Total	58,460	16,363	3,766	12,019	3,170	2,664	37,052	133,494

HOLDINGS

During 1934 monthly holdings of frozen fish and shellfish averaged 48,492,000 pounds, which is an increase of 23 percent as compared with the average monthly holdings in 1933. The holdings during October were largest, amounting to 77,151,000 pounds. However, the holdings during each of the months from September to December exceeded 70,000,000 pounds. The holdings during April were smallest when only 15,839,000 pounds of frozen fishery products were in storage.

Holdings of frozen fishery products, 1934

BY SPECIES AND MONTHS

Species	Month ended the 15th of—					
	January	February	March	April	May	June
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	396, 305	216, 788	130, 340	81, 857	77, 326	115, 052
Butterfish (all trade sizes)	818, 482	564, 374	367, 760	189, 967	120, 872	773, 730
Catfish	228, 046	148, 812	29, 512	61, 432	150, 840	253, 081
Cisco (Lake Erie)	64, 986	81, 187	79, 531	15, 498	6, 591	10, 787
Cisco (lake herring), including bluefin, blackfin, and chub	1, 672, 758	1, 286, 452	773, 027	464, 083	220, 135	220, 395
Cisco (tullibees, Canadian lakes)	308, 660	270, 244	211, 054	155, 548	74, 325	57, 607
Cod, haddock, hake, and pollock	1, 239, 513	569, 689	270, 013	743, 744	1, 014, 406	1, 050, 923
Croaker	359, 624	153, 233	82, 646	14, 044	586, 696	642, 315
Flounders	179, 844	109, 580	44, 266	66, 070	205, 005	431, 700
Haddock fillets	3, 969, 905	2, 498, 276	842, 528	1, 485, 712	2, 345, 797	4, 003, 329
Halibut (all trade sizes)	5, 274, 682	3, 670, 527	1, 316, 381	3, 166, 601	5, 356, 692	8, 268, 695
Herring, sea (including alewives and bluebacks)	1, 476, 051	1, 058, 571	750, 075	652, 215	759, 208	2, 005, 918
Lake trout	525, 685	309, 617	119, 065	21, 638	61, 438	253, 229
Mackerel (except Spanish)	5, 109, 252	3, 105, 029	1, 641, 387	391, 909	724, 908	2, 551, 375
Pike, blue and sauger	620, 071	527, 809	357, 586	63, 236	188, 478	466, 963
Pike, yellow or wall-eyed	284, 360	330, 087	182, 111	30, 327	94, 624	137, 875
Pike (including pickerel, jacks, and yellow jack)	113, 467	133, 130	76, 902	43, 165	49, 140	70, 055
Sablefish (black cod)	599, 477	427, 515	211, 539	142, 904	122, 868	123, 954
Salmon, chinook or king	1, 285, 970	824, 410	492, 180	365, 159	282, 645	690, 480
Salmon, silver or coho	2, 792, 142	2, 019, 708	1, 095, 756	512, 573	380, 110	335, 193
Salmon, fall and pink	1, 942, 287	1, 574, 257	768, 515	420, 331	289, 664	210, 165
Salmon, steelhead trout	90, 853	73, 236	91, 245	40, 829	26, 820	31, 042
Salmon, red or sockeye	322, 576	340, 751	190, 101	85, 240	91, 908	84, 964
Scup (porgies)	99, 684	57, 535	29, 935	12, 330	17, 070	66, 291
Shad and shad roe	422, 968	342, 601	220, 277	172, 416	194, 882	254, 410
Shellfish	1, 405, 491	1, 495, 595	897, 941	647, 734	958, 859	1, 715, 913
Smelts, eulachon, etc	197, 488	195, 987	278, 360	715, 978	759, 972	728, 419
Squid	303, 583	316, 229	145, 598	19, 257	120, 060	1, 058, 728
Sturgeon and spoonbill cat	314, 920	291, 663	241, 678	228, 001	231, 858	217, 946
Suckers	108, 457	84, 067	64, 253	64, 325	57, 579	58, 833
Swordfish	(1)	(1)	(1)	(1)	(1)	(1)
Weakfish (including southern "sea trout")	423, 562	169, 040	65, 979	13, 352	53, 832	181, 754
Whitefish	2, 310, 132	1, 939, 230	1, 782, 456	1, 350, 699	856, 904	669, 451
Whiting	4, 001, 716	3, 195, 417	1, 743, 144	955, 491	584, 700	2, 625, 704
Miscellaneous fish	5, 397, 092	4, 141, 934	2, 920, 166	2, 445, 812	3, 486, 461	4, 307, 418
Total	44, 660, 089	32, 522, 580	18, 513, 307	15, 839, 477	20, 552, 673	34, 673, 694

Species	Month ended the 15th of—					
	July	August	September	October	November	December
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	140, 448	136, 854	354, 900	597, 722	625, 946	545, 159
Butterfish (all trade sizes)	1, 749, 139	1, 681, 421	1, 657, 817	1, 539, 856	1, 692, 903	1, 525, 528
Catfish	261, 462	245, 094	137, 694	103, 510	92, 757	132, 455
Cisco (Lake Erie)	16, 711	12, 395	40, 510	36, 847	64, 184	95, 855
Cisco (lake herring), including bluefin, blackfin, and chub	291, 624	379, 590	415, 797	396, 849	693, 534	1, 265, 551
Cisco (tullibees, Canadian lakes)	57, 059	54, 592	55, 908	48, 407	103, 904	99, 679
Cod, haddock, hake, and pollock	1, 727, 992	2, 184, 510	2, 107, 851	1, 882, 282	2, 184, 578	4, 085, 788
Croaker	914, 255	1, 778, 993	2, 031, 389	1, 891, 546	1, 742, 526	1, 683, 081
Flounders	584, 414	561, 934	502, 499	500, 415	455, 600	529, 149
Haddock fillets	5, 597, 808	6, 722, 941	7, 361, 420	7, 455, 512	5, 909, 730	6, 279, 045
Halibut (all trade sizes)	11, 114, 912	13, 222, 506	13, 320, 852	12, 400. 438	11, 248, 326	8, 570, 018
Herring, sea (including alewives and bluebacks)	2, 773, 434	2, 762, 334	2, 771, 868	2, 735, 448	2, 837, 854	2, 804. 759
Lake trout	432, 104	487, 162	550, 718	692, 139	1, 122, 797	1, 140, 365
Mackerel (except Spanish)	4, 372, 729	5, 768, 678	10, 397, 860	10, 811, 789	9, 003, 138	7, 521, 288
Pike, blue and sauger	466, 145	328, 872	346, 096	358, 547	634, 681	948, 068
Pike, yellow or wall-eyed	143, 939	147, 177	186, 143	205, 690	235, 031	207, 216
Pike (including pickerel, jacks, and yellow jack)	67, 647	59, 433	74, 472	104, 676	187, 444	135, 199
Sablefish (black cod)	137, 436	150, 405	246, 857	898, 272	1, 335, 467	1, 172, 722
Salmon, chinook or king	952, 369	1, 503, 513	2, 395, 376	3, 008, 740	3, 063, 309	2, 639, 033
Salmon, silver or coho	677, 532	2, 487, 800	5, 318, 894	6, 522, 560	6, 327, 374	5, 008, 229
Salmon, fall and pink	155, 319	156, 263	262, 923	725, 372	2, 442, 579	2, 153, 270
Salmon, steelhead trout	233. 995	551, 561	666, 787	789, 863	698, 706	621, 397
Salmon, red or sockeye	93, 517	80, 956	76, 129	179, 729	148, 165	131, 961
Scup (porgies)	220, 365	338, 286	386, 627	378, 993	358, 357	293, 593
Shad and shad roe	521, 207	528, 013	522, 927	448, 217	429, 943	380, 040
Shellfish	1, 726, 733	1, 588, 857	1, 643, 845	1, 921, 011	2, 378, 099	2, 258, 407
Smelts, eulachon, etc	643, 794	657, 122	679, 385	701, 844	696, 604	742, 506

[1] Prior to July 15, 1934, swordfish were included with "Miscellaneous fish."

Fisheries of the New England States, 1933—Continued

CATCH: BY STATES [1]

Species	Maine		New Hampshire		Massachusetts		Rhode Island		Connecticut		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	1,703,078	$6,371			923,056	$8,399	176,000	$1,915	15,162	$152	2,817,296	$16,837
Amberjack					2,275	68					2,275	68
Bluefish	85	11			430,040	42,882	194,386	10,806	296,454	22,058	920,965	75,757
Bonito					5,222	233	46,322	1,923			51,544	2,156
Butterfish	99,475	5,059			951,585	45,905	486,522	16,204	15,941	764	1,553,523	67,932
Cod	9,336,894	145,484	28,602	$858	89,210,361	1,688,460	908,241	16,735	147,925	4,457	99,632,023	1,855,994
Crevalle							2,200	81			2,200	81
Croaker					2,491,145	35,716			5,738	136	2,496,883	35,852
Cunners	175	5			152	2	41,440	451			41,767	458
Cusk	1,583,366	18,342	17,161	343	4,509,004	53,766					6,109,531	72,451
Drum:												
Black					32	1			100	1	132	2
Red					1,755	32					1,755	32
Eels:												
Common	102,025	8,028			222,279	10,727	145,611	12,113	47,394	3,964	517,309	34,832
Conger					38,617	733	958	29	1,400	120	40,975	882
Flounders	1,178,669	27,517			27,187,427	878,601	3,253,077	90,930	6,176,038	175,968	37,795,211	1,173,016
Frigate mackerel					68,799	2,752	56,654	1,609			125,453	4,361
Grayfish	316	7			12,512	132	600	12			13,428	151
Haddock	9,306,555	215,744	60,063	2,703	150,680,476	3,425,852	23,968	703	35,450	1,018	160,106,512	3,646,020
Hake	7,084,013	66,270	168,749	2,531	8,056,678	133,691	9,171	183	1,081	20	15,319,692	202,695
Halibut	50,011	4,776			2,401,292	230,469			6,063	310	2,457,366	235,555
Herring, sea	43,774,988	160,816	2,000	20	3,572,960	38,784	737,006	11,467			48,086,954	211,087
Herring smelt					11,648	313					11,648	313
Hickory shad							2,308	23			2,308	23
King whiting or "kingfish"					38,296	1,035	1,440	53	451	12	40,187	1,100
Launce					21,000	420					21,000	420
Mackerel	4,499,107	57,740	1,050	53	35,611,363	798,108	719,289	22,137	870	27	40,831,679	878,065
Menhaden					334	4	1,003,510	2,535	25,250	252	1,029,094	2,791
Mullet					10	1	8,811	321			8,821	322
Pigfish					3,832	73					3,832	73
Pollock	3,006,065	23,414	11,441	114	11,991,798	140,076	17,242	451			15,026,546	164,055
Rosefish	2,063	14			262,255	2,827					264,318	2,841
Salmon	24,644	6,269			45	9					24,689	6,278
Scup or porgy					2,133,410	50,068	2,019,431	37,433	41,987	1,659	4,194,828	89,160
Sea bass					3,923,089	117,321	48,265	2,543	27,615	1,843	3,998,969	121,707
Sea robin					400	8	73,785	697	3,250	33	77,435	738
Shad	178,901	1,834			62,751	1,986	10,760	1,138	133,280	10,969	385,692	15,927

[1] Excluding seed oyster fishery. The seed oyster fishery in this section was prosecuted in Rhode Island and Connecticut where 258 fishermen, using 23 vessels, 7 motorboats 90 other boats, 101 dredges, 96 tongs, and 46 rakes, took 74,621 bushels of seed oysters, valued at $29,949, from public beds, and 207,185 bushels, valued at $69,617 from private beds. Of the total number of persons fishing for seed oysters 135 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated: 78 boats other than motor, 82 tongs, and 46 rakes.

Fisheries of the New England States, 1933—Continued

CATCH: BY STATES—Continued

Species	Maine		New Hampshire		Massachusetts		Rhode Island		Connecticut		Total	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sharks	29,923	$230			34,148	$287	1,947	$28			66,018	$545
Sheepshead					9	1					9	1
Skates	7,981	115			37,256	479	176,410	1,328	18,550	$185	240,197	2,107
Skipper or "billfish"					4,110	41	730	14			4,840	55
Smelt	529,990	56,827	14,267	$2,140			4,250	425	2,240	224	550,747	59,616
Spot					32,743	376	45	1	50	1	32,838	378
Squeteagues or "sea trout":												
Gray					286,547	8,543	63,310	4,012	19,510	1,736	369,367	14,291
Spotted					2,048	204					2,048	204
Striped bass					19,957	3,932	39,232	2,418	2,250	225	61,439	6,575
Sturgeon	2,308	224			5,130	639	449	37	44	5	7,931	905
Suckers	50,518	1,502							1,000	60	51,518	1,562
Swordfish	323,939	39,381			2,643,512	324,817	259,710	23,799	154,235	16,650	3,381,396	404,647
Tautog					173,543	6,766	267,123	7,402	43,098	1,895	483,764	16,063
Thimble-eyed mackerel							77,707	1,533			77,707	1,533
Tilefish									207,000	10,330	207,000	10,330
Tomcod	1,964	51					200	1			2,164	52
Tuna or "horse mackerel"	100,532	2,069			256,372	14,016	44,577	1,484			401,481	17,569
White perch					48,786	7,109	861	42			49,647	7,151
Whiting					8,677,742	88,648	724,506	7,626	16,775	547	9,419,023	96,821
Wolffish	93,647	482	3,142	79	2,096,569	31,334			4,100	41	2,197,458	31,936
Yellow perch	534	80									534	80
Total	83,071,766	848,662	306,475	8,841	359,144,370	8,196,646	11,648,054	282,642	7,450,301	255,662	461,620,966	9,592,453
SHELLFISH, ETC.												
Crabs:												
Hard	501,666	15,126			5,106,515	24,795	20,478	369	400	25	5,629,059	40,315
King							6,574	18			6,574	18
Lobsters	5,897,685	1,000,094	216,929	48,230	1,928,616	381,649	708,095	113,933	336,800	64,135	9,088,125	1,608,041
Shrimp					41,200	2,170					41,200	2,170
Periwinkles and cockles	15,516	825			65,700	6,350	109,442	5,201			190,658	12,376
Clams:												
Hard, public [2]	11,594	1,054			1,766,525	215,048	1,068,891	125,047	101,605	20,735	2,948,615	361,884
Hard, private [2]					2,200	400	89,045	12,249			91,245	12,649
Razor					358,400	15,874					358,400	15,874
Soft, public [3]	6,548,620	224,005			2,836,090	245,469	32,384	4,214	13,683	1,953	9,430,777	475,641
Surf or skimmer					59,240	3,575					59,240	3,575
Mussels, sea	110,596	2,534			30,000	3,000	650	38			141,246	5,572
Oysters: [4]												
Market, public, spring							26,880	3,840	10,150	1,250	37,030	5,090
Market, public, fall							38,444	5,507	11,550	1,450	49,994	6,957

Market, private, spring					75,161	25,680	1,525,384	211,748	613,547	81,383	2,214,092	318,811
Market, private, fall					105,448	34,357	1,527,055	211,897	1,223,661	170,261	2,856,164	416,515
Scallops:												
Bay					500,115	180,975	63,120	12,943	57,500	10,000	620,735	203,918
Sea	1,073,172	145,884			1,029,097	115,344			55,926	6,226	2,158,195	267,454
Squid	203	2			570,536	7,564	501,851	11,618	2,905	50	1,075,495	19,234
Irish moss					11,650	582					11,650	582
Bloodworms	642,852	42,724			17,759	28,000					660,611	70,724
Sandworms	618,567	25,980			21,656	19,500					640,223	45,480
Sea urchins	5,845	217									5,845	217
Total	15,426,316	1,458,445	216,929	48,230	14,525,908	1,510,332	5,718,293	718,622	2,427,727	357,468	38,315,173	3,893,097
Grand total	98,498,082	2,307,107	523,404	57,071	373,670,278	9,506,978	17,366,347	1,001,264	9,878,028	613,130	499,936,139	13,485,550

[2] Statistics on hard clams used in this table are based on yields of 11 pounds of meats per bushel in Maine, Massachusetts, and Rhode Island, and 10 pounds in Connecticut.
[3] Statistics on soft clams in this table are based on yields of 15 pounds of meats per bushel in Maine and Massachusetts, 16 pounds in Rhode Island, and 14 pounds in Connecticut.
[4] Statistics on oysters used in this table are based on yields of 6.57 pounds of meats per bushel in Massachusetts, 6.96 pounds in Rhode Island, and 6.81 pounds in Connecticut.

NOTE.—Of the total catch in Massachusetts, 10,619,503 pounds of fishery products, valued at $281,810, were taken in the southern winter trawl fishery off southern New Jersey, Maryland, Virginia, and North Carolina. Of the total catch in Connecticut, 111,837 pounds of fishery products, valued at $4,641, were taken in the same fishery. These products consisted principally of croaker, flounders, scup, and sea bass.

Industries related to the fisheries of the New England States

OPERATING UNITS, SALARIES, AND WAGES, 1933

Item	Maine and New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged:					
On vessels	149	43	8	56	256
On boats	16		38		54
Total	165	43	46	56	310
Vessels:					
Steam				1	1
Net tonnage				67	67
Motor	74	12	4	14	104
Net tonnage	813	338	39	425	1,615
Total vessels	74	12	4	15	105
Total net tonnage	813	338	39	492	1,682
Boats	11		20		31
Wholesale and manufacturing:					
Establishments	131	165	35	31	362
Persons engaged:					
Proprietors	112	89	29	36	266
Salaried employees	142	587	35	35	799
Wage earners:					
Average for season	4,383	3,012	301	416	8,112
Average for year	1,298	2,336	207	329	4,170
Paid to salaried employees	$253,670	$1,291,380	$83,949	$85,198	$1,714,197
Paid to wage earners	$765,974	$2,382,013	$159,894	$387,994	$3,695,875
Total salaries and wages	$1,019,644	$3,673,393	$243,843	$473,192	$5,410,072
Fishermen manufacturing	612	1,480	109	22	2,223

PRODUCTS MANUFACTURED

Item	Maine		Massachusetts		Rhode Island		Connecticut	
BY MANUFACTURING ESTABLISHMENTS								
Alewives: Salted, tight pack—pounds	*Quantity* 567,238	*Value* $9,669	*Quantity* (1)	*Value* (1)	*Quantity*	*Value*	*Quantity*	*Value*
Cod:								
Fresh sticks[2]—do	209,283	24,374						
Fresh fillets[2]—do	90,605	9,813	6,586,030	$748,166				
Frozen fillets[2]—do	(1)	(1)	5,849,679	560,527				
Salted:								
Green[3]—do	734,166	28,885	593,764	29,648				
Dry—do	59,196	2,054	(1)	(1)				
Boneless, including absolutely boneless—pounds	131,175	16,333	6,312,775	1,189,945				
Smoked fillets—do	44,889	6,718	1,017,034	147,241				
Oil, cod[2]—gallons	5,150	1,482	45,982	20,667				
Oil, cod liver[2]—do	13,995	5,419	69,264	46,292				
Cusk:								
Fresh sticks[2]—pounds	327,546	36,219						
Fresh fillets[2]—do	47,200	5,029	372,833	49,218				
Frozen fillets[2]—do	(1)	(1)	80,122	5,292				
Salted:								
Green[3]—do	31,150	673	(1)	(1)				
Boneless, including absolutely boneless—pounds	(1)	(1)	23,785	2,762				
Flounders:								
Fresh fillets[2]—do	62,027	8,262	932,328	141,326				
Frozen fillets[2]—do	(1)	(1)	442,704	62,281				
Haddock:								
Fresh fillets[2]—do	121,764	20,482	15,129,191	1,734,320				
Frozen fillets[2]—do	20,414	1,886	19,206,068	1,740,253				
Fresh steaks[2]—do	61,312	11,194	(1)	(1)				
Salted:								
Green[3]—do	31,400	803						
Boneless, including absolutely boneless—pounds			98,295	19,220				
Finnan haddie—do	131,400	18,960	931,754	103,793	(1)	(1)		

See footnotes at end of table.

Industries related to the fisheries of the New England States—Continued

PRODUCTS MANUFACTURED—Continued

Item	Maine		Massachusetts		Rhode Island		Connecticut	
BY MANUFACTURING ESTABLISHMENTS—con.								
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Hake:								
Fresh fillets [2] pounds	147,406	$13,094	887,216	$89,005				
Frozen fillets [2] do	(1)	(1)	155,194	11,512				
Fresh steaks [2] do	326,726	36,244						
Salted:								
Green [3] do	334,123	10,069	(1)	(1)				
Dry do	(1)	(1)	271,172	8,723				
Halibut, frozen, steaks [2] pounds			29,124	6,343				
Herring, sea:								
Salted, round do	560,700	11,439	(1)	(1)				
Smoked:								
Bloaters:								
Soft do	286,662	10,954	585,332	52,782				
Hard do	259,830	6,952	(1)	(1)				
Boneless do	1,953,365	187,020						
Lengthwise do	114,915	9,456						
Medium scaled pounds	168,370	14,247	(1)	(1)				
Kippered do	(1)	(1)	169,505	17,131				
Canned "sardines" [2] standard cases	1,142,730	3,315,190						
Scrap, dry [2] tons	1,297	38,122						
Meal [2] do	1,224	34,741						
Oil [2] gallons	61,751	7,780						
Mackerel:								
Fresh fillets [2] pounds			55,200	6,604				
Salted:								
Fillets do	(1)	(1)	1,767,746	133,250				
Split do	84,420	2,711	1,285,360	91,823				
Canned [2] standard cases	13,228	66,799						
Pollock:								
Fresh fillets [2] pounds			1,223,280	96,125				
Frozen fillets [2] do	(1)	(1)	2,968,520	184,966				
Salted:								
Green [3] do	89,055	1,824	(1)	(1)				
Dry do	42,387	2,004	941,442	37,115				
Rosefish, fresh fillets [2] pounds			17,760	2,191				
Wolffish:								
Fresh fillets [2] do			55,800	6,787				
Frozen fillets [2] do			254,830	24,079				
Crab meat, packaged, fresh cooked pounds	67,441	33,571	151,087	62,979	(1)	(1)		
Lobster meat, packaged, fresh cooked pounds			79,020	86,420				
Clams, hard, fresh shucked gallons					2,660	$4,815	(1)	(1)
Clams, soft:								
Fresh shucked do					12,145	12,083		
Canned:								
Whole [2] standard cases	89,787	321,189						
Chowder [2] standard cases	75,088	244,252			(1)	(1)		
Juice and bouillon [2] standard cases	12,804	35,970						
Marine-shell products, buttons [2] gross	(1)	(1)					1,226,731	$697,001
Pearl essence [2] pounds	13,305	99,975						
Oysters, fresh shucked gallons					301,942	514,470	175,313	313,445
Unclassified products:								
Packaged, fresh and frozen [2] pounds	[4] 283,626	[4] 22,674	[5] 3,530,334	[5] 335,095				
Salted do	[6] 31,363	[6] 2,639	[7] 1,601,189	[7] 103,216				
Smoked do	[8] 251,757	[8] 25,587	[9] 764,708	[9] 151,769	(10)	(10)	(10)	(10)
Canned:								
Fish cakes, flakes, etc. [2] standard cases	33,145	264,477	83,107	684,470				
Other [2] do	[11] 554	[11] 3,265	[12] 55,164	[12] 267,777	(10)	(10)		

See footnotes at end of table.

Industries related to the fisheries of the New England States—Continued

PRODUCTS MANUFACTURED—Continued

Item	Maine		Massachusetts		Rhode Island		Connecticut	
BY MANUFACTURING ESTABLISHMENTS—con.								
Unclassified products—Continued.								
Meal, ground fish [2] tons	*Quantity*	*Value*	*Quantity* 10,044	*Value* $476,704	*Quantity*	*Value*	*Quantity*	*Value*
Miscellaneous [13]		[14]$135,809		[15]1,059,116		[16]$161,325		[17]$138,213
Total		5,166,309		10,596,933		692,693		1,148,659
BY FISHERMEN								
Alewives:								
Corned pounds			80,000	4,800				
Salted, tight pack pounds	263,100	439	420,000	12,600				
Smoked do	165,085	4,848	12,000	600				
Cod, salted:								
Green [3] do			403,778	11,087				
Dry do	5,860	226						
Cusk, dry salted do	620	11	2,714	52				
Haddock, green salted [3] pounds			14,365	288				
Hake, green salted [3] do			3,030	31				
Hake, dry salted do	4,090	77						
Halibut, green salted do			2,115	97				
Mackerel, salted, split pounds	600	45	25,800	817				
Pollock, green salted [3] pounds			90	1				
Crabmeat, packaged, fresh cooked pounds	3,459	1,558	5,000	2,500	1,200	480		
Clams, razor, fresh shucked gallons			36,078	17,729				
Clams, soft:								
Fresh shucked do	70,281	48,225	19,000	24,000	50	75	500	1,000
Steamed pounds	161,887	11,279						
Clams, surf or skimmer, fresh shucked gallons			5,922	4,050				
Oysters, fresh shucked gallons							2,840	4,680
Scallops, bay, fresh shucked gallons			55,468	197,520	7,181	29,247	900	3,600
Scallops, sea, fresh shucked gallons	27,151	56,242	114,341	115,031				
Total		122,950		391,203		29,802		9,280
Grand total		5,289,259		10,988,136		722,495		1,157,939

[1] This item has been included under "Unclassified products."

[2] Data are for 1934.

[3] This item is usually an intermediate product and, although included in the total, may also be shown in its final stage of processing in this or another State.

[4] Includes frozen fillets of cod, cusk, flounders, hake, mackerel, and pollock.

[5] Includes fresh fillets of whiting; frozen fillets of mackerel, rosefish, salmon, and whiting; fresh steaks of cod, haddock, halibut, pollock, salmon, swordfish, and wolffish; frozen steaks of cod, salmon, swordfish, and wolffish; and frozen sticks of whiting.

[6] Includes dry-salted cusk, haddock, and hake; boneless cusk and hake; salted sea herring and mackerel fillets.

[7] Includes green-salted cusk, hake, and pollock; dry-salted cod, cusk, haddock, and tongues; boneless hake; salted alewives, tight pack; and salted sea herring, round and split.

[8] Includes finnan cod; smoked cusk, haddock, and hake fillets; kippered herring; and spiced sea herring.

[9] Includes smoked alewives, butterfish, carp, flounders, halibut, lake trout, mackerel, salmon, shad, and whitefish; smoked cusk, haddock, and hake fillets; sea herring, hard smoked, bloaters, and medium-scaled; spiced sea herring; and smoked and spiced salmon.

[10] This item is included with miscellaneous.

[11] Includes pickled soft clams; finnan haddie; and cat and dog food.

[12] Includes soft-clam chowder; finnan haddie; cat and dog food; hard-clam chowder; mackerel; deep-sea roe; and rat bait.

[13] Both 1933 and 1934 data are included in these items.

[14] Includes ground-fish meal; clam meal; and marine buttons.

[15] Includes ground-fish dry scrap; liquid glue; halibut liver oil; isinglass; marine-shell buttons and novelties; and mussel-shell novelties.

[16] Includes hard-clam chowder; marine-shell novelties; oyster-shell products; packaged fresh-cooked crab meat; fresh-shucked bay scallops; and finnan haddie.

[17] Includes fresh-shucked hard clams; smoked butterfish, carp, mackerel, paddlefish or spoonbill cat, salmon, and whitefish; and marine-shell novelties.

NOTE.—Unless otherwise indicated the data are for 1933. The total value of manufactured products for the New England States was as follows: By manufacturing establishments, $17,604,594; and by fishermen, $553,235. Some of the above products may have been manufactured from products imported from another State or country; therefore they cannot be correlated directly with the catch within the State.

VESSEL FISHERIES AT PRINCIPAL NEW ENGLAND PORTS

Due to the importance of the ports of Boston and Gloucester, Mass., and Portland, Maine, as landing points for fishery products, detailed monthly statistics are collected for these landings which are published in the following sections.

ECONOMIC ASPECT

The landings of fishery products at the three principal New England ports (Boston and Gloucester, Mass., and Portland, Maine), by vessels of 5 net tons capacity or more, during 1934 amounted to 299,915,821 pounds as landed, valued at $7,882,397. Of the total landings, 99 percent consisted of fresh fish and 1 percent salted fish. The landings at Boston accounted for 243,692,588 pounds, valued at $6,731,364, or 82 percent of the total volume; the landings at Gloucester amounted to 40,130,189 pounds, valued at $755,699, or 13 percent of the total; and the landings at Portland amounted to 16,093,044 pounds, valued at $395,334, or 5 percent of the total.

Among the landings of fresh fish, haddock far outranked other species in volume landed, the landings of all sizes in 1934 amounted to 127,763,681 pounds, or 43 percent of the total fresh fish.

Landings by fishing vessels at the three principal New England ports, 1934

BOSTON: BY MONTHS

Species	January		February		March		April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	1,803,170	$80,432	3,387,435	$145,131	4,897,495	$123,398	3,999,540	$66,902	2,504,443	$44,962	1,779,005	$43,513	2,207,275	$44,108
Market	2,346,750	83,103	1,984,345	81,761	5,212,615	127,581	4,411,920	72,496	3,038,140	55,574	3,099,610	68,588	4,035,267	72,930
Scrod	11,640	292	2,200	46	1,100	27	2,400	30	3,625	79	6,450	110	14,350	189
Cod, salted:														
Large											25,000	846	12,500	450
Market											1,500	45	3,000	90
Haddock, fresh:														
Large	4,265,660	202,510	5,401,560	253,370	8,322,425	288,945	9,655,892	200,419	7,708,900	181,387	6,562,965	179,834	5,320,990	142,647
Scrod	3,619,165	99,968	3,018,370	96,531	4,199,525	120,780	5,211,430	80,268	4,407,545	74,858	4,412,145	86,167	5,142,625	86,740
Hake, fresh:														
Large	358,189	14,043	123,290	6,719	211,950	9,730	197,345	4,543	162,775	3,474	137,200	3,030	159,050	2,796
Small	28,100	1,119	4,695	264	17,800	881	141,240	4,628	13,600	412	58,500	1,740	76,450	1,562
Hake, salted, large													4,370	55
Pollock, fresh	504,025	11,714	569,665	19,734	457,660	12,188	695,955	8,931	421,835	6,026	218,975	3,695	332,930	4,977
Cusk, fresh	272,330	7,741	129,330	3,782	449,970	9,416	276,640	3,623	106,670	1,714	101,575	1,638	164,675	2,321
Halibut, fresh	51,860	6,874	144,875	20,268	215,317	25,970	146,989	14,987	225,549	22,169	129,496	13,633	172,524	18,731
Mackerel:														
Fresh							45,410	3,446	3,211,205	71,814	2,237,830	65,596	3,325,570	76,061
Salted											1,600	32	600	21
Flounders, fresh	859,005	42,004	401,455	24,703	889,990	35,941	1,174,890	30,189	1,219,160	24,881	1,063,145	25,125	853,945	22,334
Swordfish, fresh											88,325	17,209	512,627	101,245
Other, fresh	116,699	3,240	329,584	9,773	720,270	16,432	538,435	8,850	666,952	11,610	610,974	11,570	605,791	10,338
Total, fresh	14,236,593	553,040	15,496,804	662,082	25,596,117	771,289	26,498,086	499,312	23,690,399	498,960	20,506,195	521,448	22,924,069	586,979
Total, salted											28,100	923	20,470	616
Grand total	14,236,593	553,040	15,496,804	662,082	25,596,117	771,289	26,498,086	499,312	23,690,399	498,960	20,534,295	522,371	22,944,539	587,595

NOTE.—The weights of fresh and salted fish given in these statistics represent the fish as landed from the vessels, and the values are those received by the fishermen. Large cod are classified as those weighing over 10 pounds; market cod, 2½ to 10 pounds; and scrod cod, 1 to 2½ pounds. Large haddock are those weighing over 2½ pounds and scrod haddock, 1 to 2½ pounds. Large hake are those weighing over 6 pounds and small hake, under 6 pounds. The statistics of the landings at Boston, have been revised from those previously published. Only landings by vessels having a capacity of 5 net tons or greater are used in this tabulation.

Species	August		September		October		November		December		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:												
Large	1,398,430	$42,735	1,805,470	$56,499	968,782	$36,996	1,722,388	$53,002	2,043,742	$70,052	28,517,675	$807,730
Market	3,109,720	63,993	2,475,170	63,574	2,193,330	58,860	3,338,535	84,018	5,299,230	128,582	40,544,632	961,060
Scrod	10,200	120	26,745	532	47,830	942	30,325	704	72,170	1,352	229,035	4,423
Cod, salted:												
Large			9,000	414	14,000	626					60,500	2,336
Market			1,500	52	3,000	105	13,700	103			22,700	395
Haddock, fresh:												
Large	6,401,305	169,351	4,845,095	170,068	2,687,035	143,933	3,388,690	141,116	3,716,215	172,064	68,276,732	2,245,644
Scrod	5,563,855	85,943	5,767,085	108,250	2,637,755	57,903	2,224,277	57,235	4,278,226	104,599	50,482,003	1,059,242
Hake, fresh:												
Large	417,870	7,254	259,423	6,066	378,230	12,128	608,470	14,231	425,095	11,535	3,438,887	95,549
Small	111,750	2,564	81,700	2,373	83,700	3,387	108,800	3,465	43,520	1,549	769,855	23,944
Hake, salted, large											4,370	55
Pollock, fresh	240,180	4,575	268,210	4,621	191,825	3,497	3,190,016	43,496	1,607,595	22,183	8,698,871	145,637
Cusk, fresh	264,085	4,068	120,895	2,203	202,820	4,782	284,845	6,011	239,500	5,208	2,613,335	52,507
Halibut, fresh	117,828	13,091	194,690	26,770	128,947	16,689	73,572	8,173	44,809	6,371	1,646,456	193,726
Mackerel, fresh	5,743,241	97,071	5,238,140	72,994	1,176,560	34,000	24,330	1,561	50	5	21,002,336	422,548
Mackerel, salted			800	24							3,000	77
Flounders, fresh	766,730	27,786	787,026	34,601	635,825	32,754	1,066,225	34,542	1,052,429	39,410	10,769,825	374,270
Swordfish, fresh	474,850	76,574	226,457	42,035	11,836	3,191					1,314,095	240,254
Other, fresh	407,719	7,160	292,133	6,119	580,578	7,825	226,815	5,376	202,331	3,674	5,298,281	101,967
Total, fresh	25,027,763	602,285	22,388,239	596,705	11,925,053	416,887	16,287,788	452,930	19,024,912	566,584	243,602,018	6,728,501
Total, salted			11,300	490	17,000	731	13,700	103			90,570	2,863
Grand total	25,027,763	602,285	22,399,539	597,195	11,942,053	417,618	16,301,488	453,033	19,024,912	566,584	243,692,588	6,731,364

Landings by fishing vessels at the three principal New England ports, 1934—Continued

GLOUCESTER: BY MONTHS

Species	January		February		March		April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	249,920	$12,619	91,645	$4,040	954,845	$27,573	2,561,890	$56,142	1,950,360	$42,711	781,415	$20,342	464,600	$8,583
Market	13,866	562	3,245	118	46,120	1,014	736,132	13,246	495,920	8,378	483,440	6,511	444,525	5,584
Scrod	1,455	36	240	6	1,650	30			16,330	257	505	4	1,165	10
Cod, salted														
Large					3,420	154	3,900	137	77,970	2,340	11,400	371	125,899	4,506
Market							600	15	29,550	591	4,080	92	108,034	2,711
Scrod													29,132	437
Haddock, fresh:														
Large	27,370	1,757	24,340	1,395	84,410	2,727	706,040	19,628	598,105	12,135	232,838	4,350	238,575	4,856
Scrod	920	27	1,245	35	10,125	211	203,505	3,137	151,680	2,300	338,417	4,959	606,500	7,583
Hake, fresh:														
Large	23,915	988	12,600	600	10,580	155	6,635	126	12,820	102	6,490	89	26,365	202
Small							250	5						
Pollock, fresh	218,710	6,935	27,035	1,019	6,120	65	45,255	680	67,450	506	7,355	69	23,725	184
Pollock, salted														
Cusk, fresh	5,250	125	7,360	176	7,960	144	50,215	612	17,955	133	6,570	45	40,900	300
Cusk, salted													700	14
Halibut, fresh	235	42	49	7	10	1			106	10				
Halibut, salted													4,120	215
Mackerel, fresh									506,465	7,302	545,820	8,632	807,440	11,861
Mackerel, salted											34,550	719	151,270	5,401
Flounders, fresh	54,905	2,470	43,750	2,836	60,940	1,911	6,910	179	34,995	703	31,255	401	12,850	200
Swordfish, fresh													1,608	259
Other, fresh	8,390	56	9,825	135	14,545	145	44,400	800	19,620	199	97,550	1,087	141,890	1,365
Total, fresh	604,936	25,617	221,334	10,367	1,197,305	33,976	4,361,232	94,555	3,871,806	74,736	2,531,655	46,489	2,810,143	40,987
Total, salted					3,420	154	4,500	152	107,520	2,931	50,030	1,182	419,155	13,284
Grand total	604,936	25,617	221,334	10,367	1,200,725	34,130	4,365,732	94,707	3,979,326	77,667	2,581,685	47,671	3,229,298	54,271

Species	August		September		October		November		December		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:												
Large	176,105	$5,823	135,173	$5,006	403,385	$20,443	78,811	$4,207	76,030	$2,653	7,924,179	$210,142
Market	340,085	7,064	17,080	560	617,790	12,793	8,715	212	59,390	1,059	3,266,308	57,101
Scrod					6,265	92	265	4	1,340	24	29,215	463
Cod, salted:												
Large	312,683	9,380	167,619	5,029	402,531	12,004	98,793	3,458			1,204,215	37,379
Market	271,698	5,436	115,814	2,317	117,643	2,948	53,602	1,340			701,021	15,450
Scrod	78,976	1,185	19,881	199	28,719	431	38,660	580			195,368	2,832
Haddock, fresh:												
Large	133,045	4,329	84,210	3,264	260,620	6,426	10,795	567	70,240	2,234	2,470,588	63,668
Scrod	349,000	7,637	157,450	3,667	537,525	7,833	15,580	267	48,745	731	2,420,692	38,387
Haddock, salted, large	2,000	70			4,000	60					6,000	130
Hake, fresh:												
Large	5,770	100	13,975	374	279,760	9,456	109,930	3,450	43,335	982	552,175	16,624
Small	290	5	660	12							1,200	22
Hake, salted, large	500	8	7,360	110	1,530	38					9,390	156
Pollock, fresh	39,005	755	352,780	6,745	1,418,960	32,569	6,299,160	77,983	2,635,400	33,211	11,140,955	160,721
Pollock, salted	280	5	510	8							790	13
Cusk, fresh	31,885	476	2,585	44	1,140	20	4,655	95	10,845	203	187,320	2,373
Cusk, salted	500	9			400	10					1,600	33
Halibut, fresh					12	2			239	33	651	95
Halibut, salted											4,120	215
Mackerel, fresh	2,503,865	28,571	3,042,710	36,014	375,390	5,737	54,980	3,871	11,625	1,063	7,848,295	103,051
Mackerel, salted	99,380	2,800	125,900	3,463	6,680	144	29,200	1,022			446,980	13,549
Flounders, fresh	3,490	78	9,390	548	51,820	1,076	27,935	1,025	28,755	1,176	366,995	12,603
Swordfish, fresh	3,075	663	4,466	670	130	28					9,279	1,620
Herring, salted									262,200	7,935	262,200	7,935
Other, fresh	35,438	437	146,320	1,173	499,255	5,044	19,383	217	44,037	479	1,080,653	11,137
Total, fresh	3,621,053	55,938	3,966,799	58,077	4,452,052	101,519	6,630,209	91,898	3,029,981	43,848	37,298,505	678,007
Total, salted	766,017	18,893	437,084	11,126	561,503	15,635	220,255	6,400	262,200	7,935	2,831,684	77,692
Grand total	4,387,070	74,831	4,403,883	69,203	5,013,555	117,154	6,850,464	98,298	3,292,181	51,783	40,130,189	755,699

Landings by fishing vessels at the three principal New England ports, 1934—Continued

PORTLAND: BY MONTHS

Species	January		February		March		April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	72,843	$2,933	65,522	$3,171	181,158	$5,013	705,662	$13,793	354,085	$6,561	525,515	$13,060	427,837	$10,315
Market	42,179	1,177	39,090	1,421	184,136	3,940	885,465	17,059	217,426	3,503	38,147	624	14,017	183
Scrod	1,730	17	1,005	8	360	3	1,150	6	130		270	2	685	3
Haddock, fresh:														
Large	163,772	9,663	100,780	6,354	165,832	6,927	1,217,275	23,935	825,593	16,191	79,318	3,423	182,455	5,863
Scrod	2,796	40	700	14	6,342	112	637,005	12,118	232,128	4,097	1,280	9	3,359	27
Hake, fresh:														
Large	63,902	2,389	20,357	1,102	52,969	2,198	69,172	1,496	104,883	1,734	138,948	2,501	163,584	1,683
Small	1,770	19	1,315	12	4,895	42	2,595	16	360	2	2,302	31	820	4
Pollock, fresh	24,660	402	11,220	274	37,472	500	60,127	305	46,437	285	54,029	427	56,469	434
Cusk, fresh	90,963	2,567	56,709	2,031	155,713	3,769	204,332	2,573	114,432	1,490	79,900	1,335	40,292	588
Halibut, fresh	370	57	166	29	857	129	10,442	934	39,921	738	16,557	2,893	25,343	3,299
Mackerel, fresh											100,156	2,414	22,552	340
Mackerel, salted											1,425	28		
Flounders, fresh	29,542	1,134	22,256	1,143	81,315	2,292	62,570	854	57,977	1,096	69,024	1,148	66,665	1,121
Swordfish, fresh													70,953	13,023
Herring, fresh											116,400	723	161,200	1,414
Other, fresh	4,347	160	3,506	169	8,496	293	27,444	208	39,013	1,791	20,250	1,752	70,749	1,495
Total, fresh	498,874	20,558	322,626	15,728	879,545	25,218	3,883,239	73,297	2,032,385	37,488	1,242,096	30,342	1,306,980	39,792
Total, salted											1,425	28		
Grand total	498,874	20,558	322,626	15,728	879,545	25,218	3,883,239	73,297	2,032,385	37,488	1,243,521	30,370	1,306,980	39,792

Species	August		September		October		November		December		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:												
Large	501,079	$17,873	236,292	$9,514	132,637	$6,592	90,782	$3,967	39,065	$1,727	3,332,477	$94,519
Market	12,993	203	13,601	268	27,148	643	29,869	797	13,244	379	1,517,315	30,197
Scrod	195	1	690	6	400	4	1,052	11	775	6	8,442	67
Cod, salted:												
Large	14,910	522									14,910	522
Market	2,960	89									2,960	89
Haddock, fresh:												
Large	160,503	5,805	97,281	5,609	58,267	3,997	109,053	6,662	61,779	3,984	3,221,908	98,413
Scrod	2,320	20	2,247	22	1,026	19	1,775	22	780	6	891,758	16,506
Hake, fresh:												
Large	342,952	3,933	294,105	4,931	546,843	12,470	328,966	8,614	163,458	5,361	2,290,139	48,412
Small	5,250	39	2,470	14	1,890	16	2,235	21	1,525	14	27,427	230
Hake, salted, large	175	3									175	3
Pollock, fresh	113,586	1,293	196,333	2,190	158,763	1,856	159,817	1,456	36,780	512	955,693	9,934
Pollock, salted	110	2									110	2
Cusk, fresh	41,811	626	37,736	862	121,250	2,855	108,740	2,670	69,590	1,954	1,121,468	23,320
Cusk, salted	125	2									125	2
Halibut, fresh	27,259	1,968	8,095	1,051	340	50	1,023	147	146	30	130,519	11,325
Mackerel, fresh	321,569	2,961	673,984	4,973	100,910	1,871	9,105	619			1,228,276	13,178
Mackerel, salted	15,800	59									17,225	87
Flounders, fresh	50,281	1,181	16,908	522	7,650	351	6,300	197	37,706	1,457	508,194	12,496
Swordfish, fresh	41,354	6,160	27,812	4,792							140,119	23,975
Herring, fresh	117,800	734									395,400	2,871
Other, fresh	47,935	1,989	13,316	295	16,823	303	19,530	410	16,995	321	288,404	9,186
Total, fresh	1,786,887	44,786	1,620,870	35,049	1,173,947	31,027	868,247	25,593	441,843	15,751	16,057,539	394,629
Total, salted	34,080	677									35,505	705
Grand total	1,820,967	45,463	1,620,870	35,049	1,173,947	31,027	868,247	25,593	441,843	15,751	16,093,044	395,334

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Landings by fishing vessels at the three principal New England ports, 1934—Continued

SUMMARY: By ports

Species	Boston		Gloucester		Portland		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:								
Large	28,517,675	$807,730	7,924,179	$210,142	3,332,477	$94,519	39,774,331	$1,112,391
Market	40,544,632	961,060	3,266,308	57,101	1,517,315	30,197	45,328,255	1,048,358
Scrod	229,035	4,423	29,215	463	8,442	67	266,692	4,953
Cod, salted:								
Large	60,500	2,336	1,204,215	37,379	14,910	522	1,279,625	40,237
Market	22,700	395	701,021	15,450	2,960	89	726,681	15,934
Scrod			195,368	2,832			195,368	2,832
Haddock, fresh:								
Large	68,276,732	2,245,644	2,470,588	63,668	3,221,908	98,413	73,969,228	2,407,725
Scrod	50,482,003	1,059,242	2,420,692	38,387	891,758	16,506	53,794,453	1,114,135
Haddock, salted, large			6,000	130			6,000	130
Hake, fresh:								
Large	3,438,887	95,549	552,175	16,624	2,290,139	48,412	6,281,201	160,585
Small	769,855	23,944	1,200	22	27,427	230	798,482	24,196
Hake, salted, large	4,370	55	9,390	156	175	3	13,935	214
Pollock, fresh	8,698,871	145,637	11,140,955	160,721	955,693	9,934	20,795,519	316,292
Pollock, salted			790	13	110	2	900	15
Cusk, fresh	2,613,335	52,507	187,320	2,373	1,121,468	23,320	3,922,123	78,200
Cusk, salted			1,600	33	125	2	1,725	35
Halibut, fresh	1,646,456	193,726	651	95	130,519	11,325	1,777,626	205,146
Halibut, salted			4,120	215			4,120	215
Mackerel, fresh	21,002,336	422,518	7,848,295	103,051	1,228,276	13,178	30,078,907	538,777
Mackerel, salted	3,000	77	446,980	13,549	17,225	87	467,205	13,713
Flounders, fresh	10,769,825	374,270	366,995	12,603	508,194	12,496	11,645,014	399,369
Swordfish, fresh	1,314,095	240,254	9,279	1,620	140,119	23,975	1,463,493	265,849
Herring, fresh					395,400	2,871	395,400	2,871
Herring, salted			262,200	7,935			262,200	7,935
Other, fresh	5,298,281	101,967	1,080,653	11,137	288,404	9,186	[1] 6,667,338	122,290
Total, fresh	243,602,018	6,728,501	37,298,505	678,007	16,057,539	394,629	296,958,062	7,801,137
Total, salted	90,570	2,863	2,831,684	77,692	35,505	705	2,957,759	81,260
Grand total	243,692,588	6,731,364	40,130,189	755,699	16,093,044	395,334	299,915,821	7,882,397

[1] The items under "Other, fresh" include alewives, 336,460 pounds, value $2,506; butterfish, 98,324 pounds, value $7,543; cunner (perch), 600 pounds, value $6; eels, 4,160 pounds, value $147; frigate mackerel, 10,965 pounds, value $548; herring smelt, 19,187 pounds, value $514; rosefish, 1,841,451 pounds, value $18,786; scup, 1,100 pounds, value $43; sea robins, 1,665 pounds, value $34; shad, 178,420 pounds, value $2,170; sharks, 25,252 pounds, value $441; skates, 6,930 pounds, value $97; squeteagues, gray, 20 pounds, value $2; sturgeon, 1,429 pounds, value $121; tuna or "horse mackerel", 11,762 pounds, value $385; whiting, 669,713 pounds, value $10,437; wolffish, 3,241,429 pounds, value $66,589; mixed fish, 18,915 pounds, value $141; lobsters, 82 pounds, value $25; scallops, 50,897 pounds, value $5,513; shrimp, 400 pounds, value $48; squid, 4,060 pounds, value $234; livers, 65,043 pounds, value $1,461; sounds, 600 pounds, value $24; spawn, 75,964 pounds, value $4,424; and tongues, 2,510 pounds, value $51.

BIOLOGICAL ASPECT

In 1934 the fishing fleet landing fares at Boston and Gloucester, Mass., and Portland, Maine, and operating on the fishing banks of the North Atlantic, numbered 393 steam, motor, and sail vessels of 5-net-ton capacity or greater as measured by the United States Customs Service. These vessels made 12,323 trips to the fishing grounds, and were absent from port 52,441 days, or an average of 4.2 days per trip. The catch of edible fish landed at the three ports amounted to 302,262,030 pounds when the salted fish had been converted to the basis of fresh gutted or round fish as usually landed. This, however, does not represent the entire catch of edible fish of these vessels, for small quantities, estimated at not more than 5 percent of their total catch, were landed at ports in New England other than these three, at New York City and at ports in New Jersey.

Otter trawls on all sizes of vessels accounted for 194,453,361 pounds, or 64 percent of the total landings. Line trawls were next in importance, accounting for 55,214,633 pounds, or 18 percent of the total landings.

The catch taken on Sable Island Bank and landed at the three ports amounted to 101,088,595 pounds, or 33 percent of the total; that on shore grounds, 72,469,490 pounds, or 24 percent; Georges Bank, 41,181,940 pounds, or 14 percent; Browns Bank, 28,461,481 pounds, or 9 percent; South Channel, 19,289,022 pounds, or 6 percent; and Quereau Bank, 15,232,367 pounds, or 5 percent. No other bank accounted for as much as 5,000,000 pounds in the landings at the three ports.

Landings by fishing vessels at the three principal New England ports, 1934

BY GEAR AND FISHING GROUNDS

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
	Number	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Line trawls:										
Grand Bank	3	5	178	38,648	9,076					
Green Bank	2	3	87	47,576	3,220				16,891	
St. Peters Bank	2	3	45	2,500	4,000		7,500			
Off Newfoundland (Treaty Coast)	1	1	31	396,300	66,462	34,157				
Bay of Fundy	3	4	16	5,340	2,817		260		16,105	
Gulf of St. Lawrence	5	8	284	1,360,395	1,183,148	352,632	15,180		2,835	
Quereau Bank	6	13	265	258,755	112,640	995	17,860	9,900	36,590	
Sable Island Bank (Western Bank)	34	77	1,027	2,207,798	1,956,256	5,570	1,782,350	247,095	91,047	11,400
Sable Island Bank (Western Bank) (occasional)							19,225			
Cape Shore	31	78	1,073	746,725	1,251,843	400	1,282,645	305,600	308,249	
La Have Bank	28	52	608	690,946	886,577		845,100	241,350	87,060	
Roseway Bank	5	5	52	75,900	106,600		55,000	18,300	9,480	
Browns Bank	35	230	2,620	3,201,138	3,341,586	5,300	5,607,133	1,198,982	450,295	6,500
Georges Bank	30	76	733	1,549,070	572,316		1,260,965	87,800	58,460	
South Channel	35	146	1,163	1,270,095	886,655		3,412,000	118,735	295,585	2,750
South Channel (occasional)				7,200	1,800					
Off Highland Light	8	15	79	13,810	9,855		111,810	1,705	20,740	2,400
Off Chatham	6	13	84	30,535	18,470		124,605	7,850	27,420	
Nantucket Shoals	2	2	18	4,080	1,800		11,950		12,500	
Grand Manan	1	1	8	3,065	1,105			985	755	
Bank Comfort	1	1	2	545	100		417		4,850	
Cashes Bank	25	90	499	290,297	185,280	2,930	381,985	25,845	535,795	47,545
Fippenies Bank	13	16	85	42,050	19,970	530	81,235	3,655	47,780	7,310
Platts Bank	12	37	77	42,320	17,115	1,287	73,383	1,906	69,360	1,975
Jeffreys Ledge	19	98	213	72,525	30,922	1,360	222,585	3,715	150,255	3,170
Middle Bank (Stellwagen)	14	71	346	60,180	28,045		376,465	4,780	170,300	
Shore, general	87	1,121	2,752	939,700	527,901	16,420	1,279,686	90,051	1,755,699	222,615
Shore, general (occasional)				3,400	800		1,000			600
Total	[1] 116	2,166	12,345	13,360,893	11,226,359	421,851	16,970,279	2,368,254	4,168,051	306,265
Hand lines:										
Cape Shore	3	4	66	35,550	54,795		6,575	800	800	
Georges Bank	5	14	164	209,125	101,475		800			
Georges Bank (occasional)				3,000	3,000					
Nantucket Shoals	2	7	55	37,100	30,330		390			
Shore, general	2	5	17	16,925	4,710		460		1,360	
Shore, general (occasional)					60		50	25	40	
Total	[1] 9	30	302	301,700	194,370		8,275	825	2,200	

Harpoons:										
Sable Island Bank (Western Bank)	3	3	68							
Cape Shore	35	36	932							
La Have Bank	1	1	22							
Browns Bank	42	58	1,208							
Georges Bank	49	74	1,530							
South Channel	1	1	4							
Nantucket Shoals	3	3	51							
South	3	3	57							
Shore, general	3	5	59							
Total	[1] 58	184	3,931							
Otter trawls, large:										
St. Peters Bank	3	3	39	52,000	138,390		174,950	10,400		
Gulf of St. Lawrence	1	1	14	1,000	8,750		31,700	21,000	93,800	
Quereau Bank	46	115	1,508	1,128,415	5,337,840	60,890	1,705,415	5,464,440	33,525	
Sable Island Bank (Western Bank)	54	602	7,337	11,957,459	18,034,093	23,770	21,894,178	30,103,083	453,323	18,750
Cape Shore	2	3	28	4,200	8,200		84,050	13,500	7,425	
Emerald Bank	7	10	113	172,920	306,110		375,800	162,670	7,050	
La Have Bank	6	8	103	153,980	190,250		185,165	129,295	21,265	
Browns Bank	40	89	963	1,258,106	1,365,896	250	3,638,469	2,357,695	47,085	
Georges Bank	49	255	2,732	2,373,535	4,146,720	95,785	9,724,060	6,484,145	157,290	
South Channel	28	54	577	362,470	509,615	3,400	3,117,120	985,460	48,945	
Middle Bank (Stellwagen)	3	3	26	19,000	16,800		169,300	115,000	1,500	
Shore, general	12	14	143	375,150	537,200		473,450	406,550	4,400	7,200
Total	[1] 57	1,157	13,583	17,858,235	30,599,864	184,095	41,573,657	46,253,238	875,608	25,950
Otter trawls, medium:										
Quereau Bank	3	4	41	18,250	120,400		22,600	23,700	1,950	
Sable Island Bank (Western Bank)	13	57	627	876,530	931,940		1,996,725	1,112,350	36,210	850
Sable Island Bank (Western Bank) (occasional)					9,000			10,800		
Cape Shore	6	7	68	4,215	15,690		75,050	90,075	3,665	
Emerald Bank	2	3	32	31,645	37,925	190	55,300	13,100	4,380	
La Have Bank	4	4	39	35,910	43,960	3,925	22,500	26,400	1,350	
Browns Bank	21	45	453	314,645	440,325		1,404,125	575,825	7,470	
Georges Bank	37	264	2,533	1,582,530	1,293,880	11,100	5,261,220	1,945,500	41,330	1,850
South Channel	27	148	1,312	419,210	617,305	11,450	3,492,120	1,024,150	45,803	
South Channel (occasional)				3,100	3,500		25,600	5,000	600	
Off Highland Light	9	13	83	6,240	5,190		79,850	14,520	4,105	
Off Chatham	13	40	305	61,205	314,512	1,900	479,095	66,050	10,190	800
Nantucket Shoals	5	7	64	16,700	56,450		100,400	32,600	2,200	
Cashes Bank	2	2	14	620	655		7,960	7,085	1,035	
Middle Bank (Stellwagen)	4	4	18	3,975	2,770	950	12,875	3,220	4,625	
Shore, general	72	649	2,206	318,345	251,585	8,780	706,695	153,703	80,520	148,590
Total	[1] 87	1,247	7,795	3,693,120	4,145,087	38,295	13,742,115	5,104,078	245,433	152,090
Otter trawls, small:										
Sable Island Bank (Western Bank)	1	2	14	110	20		15			600
Georges Bank	2	2	13	1,225	2,725		16,825	5,300		
South Channel	3	4	23	650	25,375	800	33,400	21,600	500	600
Off Highland Light	1	1	11	660	700		1,850		50	

[1] Exclusive of duplication.

Landings by fishing vessels at the three principal New England ports, 1934—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
	Number	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Otter trawls, small—Continued.										
Nantucket Shoals	1	1	11	100	700		5,900			
Shore, general	96	1,603	4,659	640,213	391,288	8,695	1,287,498	41,155	444,502	312,937
Shore, general (occasional)										
Total	[1] 100	1,613	4,731	642,958	420,808	9,495	1,345,488	68,055	445,052	314,137
Sink gill nets:										
Jeffreys Ledge	1	2	2	845	420		150		1,849	
Shore, general	25	4,180	4,182	6,347,478	151,106	55	341,624	3	569,484	40
Total	[1] 25	4,182	4,184	6,348,323	151,526	55	341,774	3	571,333	40
Drift gill nets:										
Bay of Islands	1	1	28							
Off Newfoundland (Treaty Coast)	1	1	28							
Gulf of St. Lawrence (occasional)										
Shore, general	18	84	181							
Shore, general (occasional)										
Total	[1] 19	86	237							
Purse seines:										
Sable Island Bank (Western Bank)	1	1	12							
Georges Bank	1	1	3							
South Channel	38	64	202	390						
Off Highland Light	2	2	7							
Off Chatham	17	22	68							
Nantucket Shoals	3	3	13							
Middle Bank (Stellwagen)	5	7	23							
South	22	30	122							
Shore, general	94	1,521	4,811							
Total	[1] 95	1,651	5,261	[2] 390						
Scallop drags:										
Georges Bank	1	7	72							
Georges Bank (occasional)										
Total	1	7	72							
Grand total	[1] 393	12,323	52,441	42,205,619	46,738,014	653,521	73,981,588	53,794,453	6,307,677	798,482

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Line trawls:								
Grand Bank		945	89, 264					137, 933
Green Bank		760	127, 075		715			196, 237
St. Peters Bank			98, 307					112, 307
Off Newfoundland (Treaty Coast)								496, 919
Bay of Fundy	680	56, 087						81, 289
Gulf of St. Lawrence	165		16, 256	4, 685				2, 935, 296
Quereau Bank	1, 180	43, 600	281, 903		180			763, 543
Sable Island Bank (Western Bank)	67, 474	88, 977	157, 348	4, 250	127		2, 710	6, 622, 462
Sable Island Bank (Western Bank) (occasional)								19, 225
Cape Shore	56, 075	273, 440	10, 670	3, 625			53, 995	4, 293, 267
La Have Bank	37, 580	131, 865	134, 561	2, 950	1, 925		6, 705	3, 066, 619
Roseway Bank	2, 540	27, 480	1, 375				7, 380	304, 055
Browns Bank	227, 469	835, 525	198, 781	13, 300	2, 701		107, 986	15, 196, 696
Georges Bank	66, 507	147, 745	76, 117	8, 575	550		4, 835	3, 832, 940
South Channel	219, 975	80, 045	22, 887	2, 970	425	1, 375	35, 065	6, 348, 562
South Channel (occasional)	185							9, 185
Off Highland Light	3, 770	9, 550	776				845	175, 261
Off Chatham	8, 700	2, 190	1, 068	2, 695			24, 750	248, 283
Nantucket Shoals	905	2, 700					200	34, 135
Grand Manan	3, 335	5, 015	79					14, 339
Bank Comfort	100	6, 625						12, 637
Cashes Bank	64, 150	612, 350	5, 481	25			5, 232	2, 156, 915
Fippenies Bank	8, 470	46, 650	1, 278				902	259, 830
Platts Bank	5, 064	83, 610	522				2, 021	298, 563
Jeffreys Ledge	7, 700	122, 080	1, 022	83			6, 058	621, 475
Middle Bank (Stellwagen)	11, 805	247, 975	898				3, 863	904, 311
Shore, general	142, 647	962, 206	7, 381	39, 905		35	81, 463	6, 065, 709
Shore, general (occasional)	700	100		100				6, 700
Total	937, 176	3, 787, 520	1, 233, 049	83, 163	[2] 6, 623	[2] 1, 410	344, 010	55, 214, 633
Hand lines:								
Gulf of St. Lawrence (occasional)						39, 420		39, 420
Cape Shore	3, 960	3, 800					2, 500	108, 720
Georges Bank	18, 045	3, 700	1, 059				2, 365	336, 569
Georges Bank (occasional)	3, 250		132				100	9, 482
Nantucket Shoals	3, 310	300	254				2, 280	73, 964
Shore, general	3, 300	19, 970	108				170	47, 003
Shore, general (occasional)								175
Total	31, 805	27, 770	1, 553			39, 420	7, 415	615, 333

[1] Exclusive of duplication.

[2] Incidental catch.

Landings by fishing vessels at the three principal New England ports, 1934—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Harpoons:								
Green Bank (occasional)					600			600
Sable Island Bank (Western Bank)					25,430		180	25,610
Cape Shore					231,858		456	232,314
Cape Shore (occasional)					413			413
La Have Bank					6,904			6,904
La Have Bank (occasional)					275			275
Browns Bank					612,669		181	612,850
Browns Bank (occasional)					4,852			4,852
Georges Bank					484,553		600	485,153
Georges Bank (occasional)					4,517			4,517
South Channel					160			160
Nantucket Shoals					19,407			19,407
South					35,075			35,075
Shore, general					23,739		888	24,627
Shore, general (occasional)					881			881
Total					1,451,333		2,305	1,453,638

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Otter trawls, large:									
St. Peters Bank			364						376,104
Gulf of St. Lawrence				19,275				600	176,125
Quereau Bank	121,010	5,125	28,754	358,980				7,480	14,251,874
Sable Island Bank (Western Bank)	2,127,961	13,945	336,326	2,275,849	202			1,889,761	89,128,700
Cape Shore	625	3,125		10,895				600	132,620
Emerald Bank	66,600		3,830	20,100				10,485	1,125,565
La Have Bank	65,850	2,340	4,476	28,400				6,610	787,631
Browns Bank	442,185	4,220	35,475	158,566				325,335	9,633,282
Georges Bank	526,665	25,210	54,152	674,315		5,285		251,352	24,518,514
South Channel	110,520	1,920	13,741	171,990		400		81,820	5,407,401
Middle Bank (Stellwagen)	2,500		172	3,986				800	329,058
Shore, general	117,100	300	5,310	88,125				31,070	2,045,855
Total	3,581,016	56,185	482,600	3,810,481	202	5,685		2,605,913	147,912,729
Otter trawls, medium:									
Quereau Bank	3,850			4,100				22,100	216,509
Sable Island Bank (Western Bank)	80,440	1,750	12,600	111,535				90,595	5,251,525
Sable Island Bank (Western Bank) (occasional)			383	1,800				1,800	23,783
Cape Shore	2,760		260	5,860				18,015	215,590

Emerald Bank	12,400	120	291	17,090				1,550	173,991
La Have Bank	4,175	100	426	1,850				770	141,366
Browns Bank	121,500	21,585	7,347	63,630				57,349	3,013,801
Georges Bank	260,150	2,660	22,926	1,153,730	5,005	1,070		323,946	11,906,897
South Channel	79,175	550	10,087	473,735		400		113,952	6,287,937
South Channel (occasional)	200		162	1,350				900	40,412
Off Highland Light	158,520			25,360		75		254,315	548,175
Off Chatham	57,520		195	86,295				317,972	1,395,734
Nantucket Shoals	1,500		25	21,370				3,375	234,620
Cashes Bank	29,500			705				360	47,920
Middle Bank (Stellwagen)	4,500	11,045		19,380				5,345	68,685
Shore, general	3,967,525	2,965	3,142	1,783,119		1,945		919,125	8,346,039
Total	4,783,715	40,775	57,844	3,770,909	[2] 5,005	[2] 3,490		2,131,469	37,913,425
Otter trawls, small:									
Sable Island Bank (Western Bank)		40		3,840				325	4,950
Georges Bank	200			4,235					30,510
South Channel				3,900					86,825
Off Highland Light	400		34	670				420	4,784
Nantucket Shoals	80								6,780
Shore, general	447,672	6,051	10,760	3,952,001		210		946,376	8,489,358
Shore, general (occasional)				4,000					4,000
Total	448,352	6,091	10,794	3,968,646		[2] 210		947,121	8,627,207
Sink gill nets:									
Jeffreys Ledge	18,365							435	22,064
Shore, general	10,985,140	7,060	26	4,950		9		41,556	18,448,531
Total	11,003,505	7,060	26	4,950		[2] 9		41,991	18,470,595
Drift gill nets:									
Bay of Islands							196,650		196,650
Off Newfoundland (Treaty Coast)							196,650		196,650
Gulf of St. Lawrence (occasional)						62,910			62,910
Shore, general						145,810		1,915	147,725
Shore, general (occasional)						670			670
Total						209,390	393,300	1,915	604,605
Purse seines:									
Sable Island Bank (Western Bank)						12,400			12,400
Georges Bank						6,625			6,625
South Channel						1,108,150			1,108,540
Off Highland Light						35,110			35,110
Off Chatham						334,150			334,150
Nantucket Shoals						70,950			70,950

[2] Incidental catch.

Landings by fishing vessels at the three principal New England ports, 1934—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
Purse seines—Continued.	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Middle Bank (Stellwagen)						111, 880			111, 880
South						877, 260			877, 260
Shore, general	11, 660			6, 865	330	27, 893, 496	395, 400	534, 466	28, 842, 217
Total	[2] 11, 660			[2] 6, 865	[2] 330	30, 450, 021	395, 400	534, 466	31, 399, 132
Scallop drags:									
Georges Bank								47, 088	47, 088
Georges Bank (occasional)								3, 645	3, 645
Total								50, 733	50, 733
Grand total	20, 797, 229	3, 925, 401	1, 785, 866	11, 645, 014	1, 463, 493	30, 709, 635	788, 700	6, 667, 338	302, 262, 03

NOTE.—The 3 principal New England ports are Boston, and Gloucester, Mass., and Portland, Maine. Otter trawls (including V-D trawls) are classified according to the size of the vessel. The weight of salted fish landed has been converted to the equivalent of fresh fish as landed. Only landings by vessels having a capacity of 5 net tons or greater are used in this tabulation. "Occasional" after the name of a bank or ground indicates that the vessel or vessels contributing to the catch as shown fished chiefly with another type of gear. In such cases the number of vessels fishing, number of trips, and number of days absent, are shown under the principal type of gear used.

SUMMARY: BY FISHING GROUNDS

Fishing grounds	Vessel fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
Off Newfoundland:	*Number*	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Area XIX:										
Bay of Islands	1	1	28							
Off Newfoundland (Treaty Coast)	2	2	59	396, 300	66, 462	34, 157				
Area XX:										
Grand Bank	3	5	178	38, 648	9, 076					
Green Bank	2	3	87	47, 576	3, 220				16, 891	
St. Peters Bank	5	6	84	54, 500	142, 390		182, 450	10, 400		
Total	[1] 12	17	436	537, 024	221, 148	34, 157	182, 450	10, 400	16, 891	

Off Canada:										
Area XIX:										
Gulf of St. Lawrence	6	9	298	1,361,395	1,191,898	352,632	46,880	21,000	96,635	
Area XXI:										
Quereau Bank	55	132	1,814	1,405,420	5,570,880	61,885	1,745,815	5,498,040	72,065	
Sable Island Bank (Western Bank)	103	742	9,085	15,041,897	20,931,309	29,340	25,692,493	31,473,328	580,580	31,600
Cape Shore	70	128	2,167	790,690	1,330,528	400	1,448,320	409,975	320,139	
Emerald Bank	9	13	145	204,565	344,035	190	431,100	175,770	11,430	
La Have Bank	39	65	772	880,836	1,120,787	3,925	1,052,765	397,045	109,675	
Roseway Bank	5	5	52	75,900	106,600		55,000	18,300	9,480	
Browns Bank	130	422	5,244	4,773,889	5,147,807	5,550	10,649,727	4,132,502	504,850	6,500
Area XXII:										
Bay of Fundy	3	4	16	5,340	2,817		260		16,105	
Total	[1] 166	1,520	19,593	24,539,932	35,746,661	453,922	41,122,360	42,125,960	1,720,959	38,100
Off United States:										
Area XXII:										
Georges Bank	157	693	7,780	5,718,485	6,120,116	106,885	16,263,870	8,522,745	257,080	1,850
South Channel	128	417	3,281	2,063,115	2,044,250	15,650	10,080,240	2,154,945	391,433	3,350
Off Highland Light	20	31	180	20,710	15,745		193,510	16,225	24,895	2,400
Off Chatham	36	75	457	91,740	332,982	1,900	603,700	73,900	37,610	800
Nantucket Shoals	15	23	212	57,980	89,280		118,640	32,600	14,700	
Grand Manan	1	1	8	3,065	1,105			985	755	
Bank Comfort	1	1	2	545	100		417		4,850	
Cashes Bank	27	92	513	290,917	185,935	2,930	389,945	32,930	536,830	47,545
Fippenies Bank	13	16	85	42,050	19,970	530	81,235	3,655	47,780	7,310
Platts Bank	12	37	77	42,320	17,115	1,287	73,383	1,906	69,360	1,975
Jeffreys Ledge	20	100	215	73,370	31,342	1,360	222,735	3,715	152,104	3,170
Middle Bank (Stellwagen)	25	85	413	83,155	47,615	950	558,640	123,000	176,425	
Shore, general	293	9,182	19,010	8,641,211	1,864,650	33,950	4,090,463	691,487	2,856,005	691,982
Area XXIII:										
South	25	33	179							
Total	[1] 378	10,786	32,412	17,128,663	10,770,205	165,442	32,676,778	11,658,093	4,569,827	760,382
Grand total	[1] 393	12,323	52,441	42,205,619	46,738,014	653,521	73,981,588	53,794,453	6,307,677	798,482

[1] Exclusive of duplication.
[2] Incidental catch.

Landings by fishing vessels at the three principal New England ports, 1934—Continued

SUMMARY: By fishing grounds—Continued

Fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Off Newfoundland:									
Area XIX:									
Bay of Islands							196,650		196,650
Off Newfoundland (Treaty Coast)							196,650		693,569
Area XX:									
Grand Bank		945	89,264						137,933
Green Bank		760	127,075		1,315				196,837
St. Peters Bank			98,671						488,411
Total		1,705	315,010		1,315		393,300		1,713,400
Off Canada:									
Area XIX:									
Gulf of St. Lawrence	165		16,256	23,960		102,330		600	3,213,751
Area XXI:									
Quereau Bank	126,040	48,725	310,657	363,080	180			29,580	15,232,367
Sable Island Bank (Western Bank)	2,275,875	104,712	506,657	2,397,274	25,759	12,400		1,985,371	101,088,595
Cape Shore	63,360	280,365	10,930	20,380	232,271			75,566	4,982,924
Emerald Bank	79,000	120	4,121	37,190				12,035	1,299,556
La Have Bank	107,605	134,305	139,463	33,200	9,104			14,085	4,002,795
Roseway Bank	2,540	27,480	1,375					7,380	304,055
Browns Bank	791,154	861,330	241,603	235,496	620,222			490,851	28,461,481
Area XXII.									
Bay of Fundy	680	56,087							81,289
Total	3,446,419	1,513,124	1,231,062	3,110,580	887,536	114,730		2,615,468	158,666,813
Off United States:									
Area XXII:									
Georges Bank	874,817	179,315	154,386	1,840,855	494,625	12,980		633,931	41,181,940
South Channel	410,055	82,515	46,877	653,945	585	1,110,325		231,737	19,289,022
Off Highland Light	162,690	9,550	810	26,030		35,185		255,580	763,330
Off Chatham	66,220	2,190	1,263	88,990		334,150		342,722	1,978,167
Nantucket Shoals	5,795	3,000	279	21,370	19,407	70,950		5,855	439,856
Grand Manan	3,335	5,015	79						14,339
Bank Comfort	100	6,625							12,637
Cashes Bank	93,650	612,350	5,481	730				5,592	2,204,835
Fippenies Bank	8,470	46,650	1,278					902	259,830
Platts Bank	5,064	83,610	522					2,021	298,563
Jeffreys Ledge	26,055	122,080	1,022	83				6,493	643,539
Middle Bank (Stellwagen)	18,805	259,020	1,070	23,366		111,880		10,008	1,413,934
Shore, general	15,675,744	998,652	26,727	5,879,065	24,950	28,042,175	395,400	2,557,029	72,469,490

Area XXIII: South					35,075	877,260			912,335
Total	17,350,810	2,410,572	239,794	8,534,434	574,642	30,594,905	395,400	4,051,870	141,881,817
Grand total	20,797,229	3,925,401	1,785,866	11,645,014	1,463,493	30,709,635	788,700	6,667,338	302,262,030

NOTE.—The weight of salted fish landed has been converted to the equivalent of fresh fish as landed. The roman numerals appearing in the stub of the above table refer to the numbers given these regions by the North American Council on Fishery Investigations.

Days' absence from port of fishing vessels landing fish at Boston and Gloucester, Mass., and Portland, Maine, 1934

Fishing grounds	January	February	March	April	May	June	July	August	September	October	November	December	Total
Off Newfoundland:													
Area XIX:													
Bay of Islands												28	28
Off Newfoundland (Treaty Coast)										31		28	59
Area XX:													
Grand Bank			36		86		56						178
Green Bank						30			30	27			87
St. Peters Bank		21	22			2				24		15	84
Total		21	58		86	32	56		30	82		71	436
Off Canada:													
Area XIX: Gulf of St. Lawrence						18	73	116	34	33	24		298
Area XXI:													
Quereau Bank			34	17	40	71	36	101	132	308	249	816	1,804
Sable Island Bank (Western Bank)	474	860	1,084	1,544	1,076	688	948	705	547	83	562	509	9,080
Cape Shore	98	79	47	11	97	130	58	385	608	30	336	288	2,167
Emerald Bank		4		13							20	112	149
La Have Bank	250	34	28	34			82	64	72	57	53	97	771
Roseway Bank	9				9				9		15	10	52
Browns Bank	582	562	442	419	490	231	785	663	446	200	97	318	5,235
Area XXII: Bay of Fundy			7	9									16
Total	1,413	1,539	1,642	2,047	1,712	1,138	1,982	2,034	1,848	711	1,356	2,150	19,572

Days' absence from port of fishing vessels landing fish at Boston and Gloucester, Mass., and Portland, Maine, 1934—Continued

Fishing grounds	January	February	March	April	May	June	July	August	September	October	November	December	Total
Off United States:													
Area XXII:													
Georges Bank	341	696	602	190	610	740	1,346	781	838	817	466	361	7,788
South Channel	133	95	346	96	254	626	438	521	442	218	84	36	3,289
Off Highland Light	48	10	27	13		3		7	8	32	24	8	180
Off Chatham	33	18		24	18	40	127	60	71	34	16	16	457
Nantucket Shoals	19	7			13	27	43	38	30	35			212
Grand Manan					8								8
Bank Comfort							2						2
Cashes Bank	33	9	43	35	29	12	44	39	24	107	111	27	513
Fippenies Bank	26	8	8	5					8	14	12	4	85
Platts Bank	12	28	13							2	8	14	77
Jeffreys Ledge	72	26	20						4		44	49	215
Middle Bank (Stellwagen Bank)	132	51	88	28	5	2	7	14		31	21	34	413
Shore, general	967	478	1,362	1,571	1,846	1,825	1,756	2,256	2,204	1,696	1,869	1,185	19,015
Area XXIII: South				6	113	60							179
Total	1,816	1,426	2,509	1,968	2,896	3,335	3,763	3,716	3,629	2,986	2,655	1,734	32,433
Grand total	3,229	2,986	4,209	4,015	4,694	4,505	5,801	5,750	5,507	3,779	4,011	3,955	52,441

NOTE.—The roman numerals appearing in the stub of the above table refer to the numbers given these areas by the North American Council on Fishery Investigations.

MACKEREL FISHERY OF THE ATLANTIC COAST [6]

In 1934 the mackerel fleet landed 40,385,700 pounds of mackerel, an increase of 37 percent as compared with corresponding statistics for the previous year. In 1934, as in the previous year, fleet activity was curtailed for a portion of the season to avoid glutting the market. The curtailment, applying only to purse-seine vessels, was by mutual agreement during the period from May 27 to June 9 and thereafter by authority of the Code of Fair Competition for the Mackerel Fishing Industry under the National Recovery Administration, and consisted of the restrictions indicated in the footnotes of the following table. Unlike 1933, "dumping" of mackerel for lack of market was negligible in 1934.

Of the total landings, 20,253,000 pounds consisted of tinker sizes (under 1 pound each) and 20,132,700 pounds were of larger sizes. Practically all of the tinker mackerel were taken in the Gulf of Maine after July 15. There were no bull's-eye mackerel landed by the fleet.

Mackerel fishery of the Atlantic coast, 1934

CATCH: BY AREAS IN 7-DAY PERIODS

Date	Southern (area XXIII)		Block Island (area XXII, west of Nantucket Shoals)		Gulf of Maine (area XXII, north of Nantucket Shoals)		Total
	Seiners	Netters	Seiners	Netters	Seiners	Netters	
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Apr. 8–14	2,200						2,200
Apr. 15–21	1,027,500	9,500					1,037,000
Apr. 22–28	357,600	48,200					405,800
Apr. 29–May 5	697,100	174,500					871,600
May 6–12	1,966,300	67,400					2,033,700
May 13–19	553,600	174,100	627,800				1,355,500
May 20–26		4,000	1,471,100	127,000		800	1,602,900
May 27–June 2 [1]			1,634,700	22,000		28,200	1,684,900
June 3–9 [2]			708,200	36,000		1,200	745,400
June 10–16 [3]			366,100	8,000	83,200	9,400	466,700
June 17–23 [3]			534,300	4,000	192,800	21,900	753,000
June 24–30 [4]			803,100	4,000	489,600	34,800	1,331,500
July 1–7 [4]			47,800		1,044,200	11,800	1,103,800
July 8–14 [4]					1,275,000	7,500	1,282,500
July 15–21 [4]			7,300		1,153,200	11,200	1,171,700
July 22–28 [4]					1,469,900	800	1,470,700
July 29–Aug 4 [4]					1,174,600		1,174,600
Aug. 5–11					1,801,500	1,000	1,802,500
Aug. 12–18					2,483,800	800	2,484,600
Aug. 19–25					2,253,500		2,253,500
Aug. 26–Sept. 1					3,695,100		3,695,100
Sept. 2–8					2,395,800		2,395,800
Sept. 9–15					2,431,400		2,431,400
Sept. 16–22					2,420,300		2,420,300
Sept. 23–29					1,986,100		1,986,100
Sept. 30–Oct. 6					951,400		951,400
Oct. 7–13					967,200		967,200
Oct. 14–20					323,600	1,000	324,600

[1] Each vessel limited to 28,000 pounds per trip.

[2] Each vessel limited to 28,000 pounds per trip and fleet called into port June 5 to avoid further glutting of the market.

[3] One-half of fleet operated, each vessel of 20 tons gross or over subject to a limit of 5,000 pounds plus 1,000 pounds per member of crew plus 50 pounds pergross ton (average 20,300 pounds per vessel) per trip and each boat under 20 gross tons subject to a limit of 5,000 pounds plus 1,000 pounds per member of crew (average 13,000 pounds per boat) per trip.

[4] Entire fleet operated subject to same trip limit with 1 trip limit allowed per week and unfilled trip limits applied to following weeks' quotas.

[6] This section, prepared by O. E. Sette of the Division of Scientific Inquiry, includes the landings at Cape May and Wildwood, N. J.; New York, N. Y.; Newport, R. I.; New Bedford, Woods Hole, Provincetown, Boston, and Gloucester, Mass.; and Portland and Boothbay Harbor, Maine, by purse-seine vessels, "seiners", and drift-gill-net vessels, "netters"; and such boats as fish by the same methods and on the same grounds as the vessels. It does not include the catch of the smaller boats or the catch by other forms of gear.

NOTE.—The roman numerals appearing in the stub of the above table refer to the numbers given these areas by the North American Council on Fishery Investigations.

Mackerel fishery of the Atlantic coast, 1934—Continued

CATCH: BY AREAS IN 7-DAY PERIODS—Continued

Date	Southern (area XXIII)		Block Island (area XXII, west of Nantucket Shoals)		Gulf of Maine (area XXII, north of Nantucket Shoals)		Total
	Seiners	Netters	Seiners	Netters	Seiners	Netters	
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Oct. 21–27					42,800		42,800
Oct. 28–Nov. 3					8,000	100	8,100
Nov. 4–10					3,900	5,400	9,300
Nov. 11–17						22,600	22,600
Nov. 18–24					5,200	36,600	41,800
Nov. 25–Dec. 1						41,500	41,500
Dec. 2–8						12,800	12,800
Dec. 9–15						300	300
Dec. 16–22						500	500
Total	4,604,360	477,700	6,200,400	201,000	28,652,100	250,200	40,385,700

OPERATING UNITS AND CATCH: BY FLEET CLASSIFICATION AND GROUNDS

Designation	Vessels and boats	Tonnage	Crew	Trips	Total catch
SOUTHERN—AREA XXIII					
Seiners:	*Number*	*Net tons*	*Number*	*Number*	*Pounds*
Regular vessels	42	1,695	544	200	4,215,600
Miscellaneous vessels	9	339	100	21	388,700
Netters:					
Regular vessels	11	187	75	65	446,600
Miscellaneous vessels	2	21	11	4	24,500
Miscellaneous boats	1			2	6,600
Total	[5] 64	2,242	730	292	5,082,000
BLOCK ISLAND—AREA XXII					
(West of Nantucket Shoals only)					
Seiners:					
Regular vessels	55	2,138	688	287	6,010,200
Miscellaneous vessels	10	227	99	17	190,200
Netters:					
Regular vessels	12	201	81	26	188,000
Miscellaneous vessels	3	22	13	3	9,600
Miscellaneous boats	1			1	3,400
Total	[5] 80	2,588	881	334	6,401,400
GULF OF MAINE—AREA XXII					
(North of Nantucket Shoals only)					
Seiners:				1,525	26,675,100
Regular vessels	69	2,210	676	89	1,055,800
Miscellaneous vessels	21	356	169	149	921,200
Miscellaneous boats	18				
Netters:					
Spring and summer:					
Miscellaneous vessels	5	53	26	14	24,500
Miscellaneous boats	22			74	104,900
Fall:					
Regular vessels	12	322	93	82	95,900
Miscellaneous vessels	5	166	40	6	16,200
Miscellaneous boats	5			18	8,700
Total	[5] 100	3,107	1,004	1,957	28,902,300
Total seiners	[5] 92			2,288	39,456,800
Total netters	[5] 32			295	928,900
Grand total	[5] 112			2,583	40,385,700

[5] Exclusive of duplication and of boats.

FISHERIES OF THE MIDDLE ATLANTIC STATES

(AREA XXIII) [7]

The most recent complete fishery statistics for the Middle Atlantic States (New York, New Jersey, Pennsylvania, and Delaware) are those collected for the year 1933. In that year the yield of the commercial fisheries amounted to 169,753,735 pounds, valued at $4,811,055 to the fishermen, representing an increase of 20 percent in volume and 3 percent in value as compared with the catch of the previous year. Detailed statistics of these fisheries for 1933 appear in "Fishery industries of the United States, 1934", Appendix II to the Report of the United States Commissioner of Fisheries, 1935. A summary of these fisheries as well as statistics of the shad fishery of the Hudson River for 1934 appear in the following tables.

Fisheries of the Middle Atlantic States, 1933

OPERATING UNITS: BY STATES

Item	New York	New Jersey	Pennsylvania	Delaware	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	825	1,267		350	2,442
On boats and shore:					
Regular	1,509	954		34	2,497
Casual	1,482	1,622	53	478	3,635
Total	3,816	3,843	53	862	8,574
Vessels:					
Steam	9			10	19
Net tonnage	1,773			1,237	3,010
Motor	160	208		16	384
Net tonnage	2,422	3,470		229	6,121
Sail		3		1	4
Net tonnage		24		8	32
Total vessels	169	211		27	407
Total net tonnage	4,195	3,494		1,474	9,163
Boats:					
Motor	636	1,029	5	77	1,747
Other	1,188	740	14	181	2,123
Accessory boats	39	88		30	157
Apparatus:					
Purse seines:					
Menhaden		8		10	18
Length, yards		2,806		3,140	5,946
Other	2	7			9
Length, yards	800	2,510			3,310
Haul seines	71	105	12	61	249
Length, yards	5,926	9,040	1,635	18,990	35,591
Gill nets:					
Anchor	46	10			56
Square yards	40,832	5,830			46,662
Drift	254	605	7	63	929
Square yards	423,369	448,333	5,200	145,720	1,022,622
Runaround	43	69		33	145
Square yards	124,822	210,695		41,450	376,967
Stake	49	251		99	399
Square yards	23,161	46,882		7,770	77,813
Lines:					
Hand	225	463		12	700
Hooks	441	720		24	1,185
Trawl	693	712		2	1,407
Hooks	187,600	420,400		1,300	609,300

[7] This is the number given to this area by the North American Council on Fishery Investigations. It should be explained that there are included in this area craft whose principal fishing ports are in the area but sometimes fish elsewhere. A notable example is the southern trawl fishery which extends into area XXIV. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the Middle Atlantic States, 1933—Continued

OPERATING UNITS: By States—Continued

Item	New York	New Jersey	Pennsylvania	Delaware	Total
Apparatus—Continued.					
Lines—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*
Troll	20	404			424
Hooks	20	404			424
Trot with baits or snoods		9			9
Baits or snoods		9,900			9,900
Trot with hooks	14				14
Hooks	1,495				1,495
Pound nets	301	153		32	486
Weirs		88			88
Stop nets	24	65		7	96
Square yards	11,258	50,615		1,820	63,693
Fyke nets	849	1,369		449	2,667
Dip nets	5	34		51	90
Cast nets		3			3
Scap nets	279				279
Drag nets	47	14			61
Yards at mouth	94	28			122
Otter trawls	130	67			197
Yards at mouth	2,791	1,514			4,305
Wire baskets		12			12
Pots:					
Crab		10			10
Eel	3,877	2,571		876	7,324
Lobster	18,340	28,071		165	46,576
Harpoons	18	1			19
Spears	77	92			169
Dredges:					
Clam	14	43		33	90
Yards at mouth	12	48		47	107
Crab	6	69		11	86
Yards at mouth	14	90		20	124
Mussel	2				2
Yards at mouth	2				2
Oyster	78	259		16	353
Yards at mouth	115	309		23	447
Scallop	250	10			260
Yards at mouth	365	34			399
Tongs	837	783		32	1,652
Rakes	568	509			1,077
Forks	271	51			322
Hoes		176			176
Gaffs		2			2

Fisheries of the Middle Atlantic States, 1933—Continued

CATCH: BY STATES [1]

Species	New York		New Jersey		Pennsylvania		Delaware		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	218,257	$5,023	13,990	$244	8,775	$88	1,148,980	$4,786	1,390,002	$10,141
Bluefish	1,131,721	56,097	2,115,304	76,146			4,720	236	3,251,745	132,479
Bonito	159,007	9,541	88,407	4,103					247,414	13,644
Butterfish	1,498,212	61,339	2,912,214	119,319					4,410,426	180,658
Carp	219,497	17,574	143,471	16,047	640	64	26,420	1,589	390,028	35,274
Catfish and bullheads	19,008	2,561	55,380	3,321			1,845	116	76,233	5,998
Cero			2,500	75					2,500	75
Cod	4,260,669	112,583	3,229,886	99,688			2,240	69	7,492,795	212,340
Crevalle			7,254	141					7,254	141
Croaker	80,147	1,531	1,901,073	44,945			67,130	1,068	2,048,350	47,544
Cusk	3,500	99							3,500	99
Dolphin			111	9					111	9
Drum:										
Black	447	9							447	9
Red or redfish			8,770	126			520	16	9,290	142
Eels:										
Common	290,470	27,446	336,466	28,565			53,140	3,892	680,076	59,903
Conger	5,260	257	11,163	432					16,423	689
Flounders	5,191,128	192,032	4,051,797	170,601			9,450	492	9,252,375	363,125
Frigate mackerel	81,886	1,234	19,754	243					101,640	1,477
Goosefish			10,000	38					10,000	38
Grayfish			6,739	135					6,739	135
Haddock	8,506,679	248,282							8,506,679	248,282
Hake	139,954	2,811	22,171	360					162,125	3,171
Halibut	52,508	7,280							52,508	7,280
Herring:										
Round			750	8					750	8
Sea	74,987	610	590,465	5,171					665,452	5,781
Hickory shad	1,300	25							1,300	25
Kingfish or "king mackerel"			140	5					140	5
King whiting or "kingfish"	73,223	4,057	84,039	10,932					157,262	14,989
Mackerel	343,717	12,353	318,047	9,692					661,764	22,045
Menhaden	201,176	938	45,774,117	122,929			33,600,000	111,700	79,575,293	235,567
Mullet	2,500	96	82,747	6,234			233,000	2,390	318,247	8,720
Mummichog	25,050	2,505	25,925	1,939					50,975	4,444
Pigfish			203	5					203	5
Pike or pickerel	420	53							420	53
Pollock	770,231	11,551	6,280	94					776,511	11,645

[1] Excluding the seed oyster fishery. The seed oyster fishery in New York, New Jersey, and Delaware was prosecuted by 2,034 fishermen who used 153 vessels, 206 motorboats 152 other boats, 300 dredges, 374 tongs, and 79 rakes; 1,027,040 bushels of seed oysters, valued at $270,112 were taken from public beds, while 78,580 bushels, valued at $77,830, were taken from private beds. Of the total number of persons fishing for seed oysters, 1,881 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated: 87 vessels, 79 motorboats, 92 other boats, 172 dredges, 327 tongs and 15 rakes.

Fisheries of the Middle Atlantic States, 1933—Continued

CATCH: BY STATES—Continued

Species	New York		New Jersey		Pennsylvania		Delaware		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Pompano			317	$77					317	$77
Scup or porgy	1,478,153	$26,649	4,881,364	65,293					6,359,517	91,942
Sea bass	505,688	23,668	1,969,143	63,601					2,474,831	87,269
Sea robin	18,758	276	10,805	109					29,563	385
Shad	351,786	28,761	457,458	45,181	2,217	$392	22,325	$1,993	833,786	76,327
Sharks	2,500	35	9,610	203					12,110	238
Sheepshead			9	1					9	1
Silversides	18,500	1,838	4,830	676					23,330	2,514
Skates	725	7	82,976	712					83,701	719
Smelts	245	47							245	47
Spanish mackerel			6,419	287					6,419	287
Spot	22,765	463	473,565	6,958			31,920	903	528,250	8,324
Squeteagues or "sea trout":										
Gray	823,634	38,147	6,927,381	185,597			123,180	3,341	7,874,195	227,085
Spotted			30	2					30	2
Squirrel hake			52,765	402					52,765	402
Striped bass	18,954	2,724	9,122	1,770			11,700	1,382	39,776	5,876
Sturgeon	1,851	311	26,713	2,130			1,200	300	29,764	2,741
Suckers	28,624	2,365	102,575	8,462	40,600	2,436			171,799	13,263
Sunfish	1,690	132							1,690	132
Swellfish	2,000	200							2,000	200
Swordfish	100,966	12,441	1,600	128					102,566	12,569
Tautog	61,158	1,584	70,923	10,048					132,081	11,632
Thimble-eyed mackerel			25,475	374					25,475	374
Tilefish	1,350,000	67,500	25	1					1,350,025	67,501
Tomcod	7,690	338							7,690	338
Tuna or "horse mackerel"	6,736	270	36,492	1,656					43,228	1,926
Whitebait	3,000	450							3,000	450
White perch	15,182	1,119	29,420	2,666			30,650	1,490	75,252	5,275
Whiting	106,111	1,028	2,040,544	20,134			480	30	2,147,135	21,192
Wolffish	25,625	576							25,625	576
Yellow perch	1,857	168					6,480	398	8,337	566
Total	28,305,152	988,984	79,038,724	1,138,015	52,232	2,980	35,375,380	136,191	142,771,488	2,266,170
SHELLFISH, ETC.										
Crabs:										
Hard	149,383	5,437	709,410	18,356			96,600	1,295	955,393	25,088
King			2,183,772	5,931			566,600	595	2,750,372	6,526
Soft	825	225	57,363	12,239			36,000	7,200	94,188	19,664
Lobsters	346,496	67,256	364,220	67,629			12,840	2,568	723,556	137,453
Shrimp	59,912	11,981	25,741	3,328					85,653	15,309

Squid	444,938	6,696	347,312	8,760					792,250	15,456
Clams:										
Hard, public [2]	1,923,610	271,295	1,405,204	215,579			191,300	30,310	3,520,114	517,184
Hard, private [2]	21,040	4,601	70,461	8,721			9,640	1,898	101,141	15,220
Soft, public [3]	222,150	18,760	913,560	45,752					1,135,710	64,512
Surf or skimmer	379,500	18,380	146,313	5,732					525,813	24,112
Conchs	35,000	2,095	54	2					35,054	2,097
Mussels, sea	47,400	3,150	5,200	200					52,600	3,350
Oysters: [4]										
Market, public, spring	19,250	2,662	10,966	1,138			39,600	5,140	69,816	8,940
Market, public, fall	81,984	9,512	26,606	1,792					108,590	11,304
Market, private, spring	2,761,525	381,138	3,718,539	282,883			24,520	2,985	6,504,584	667,006
Market, private, fall	3,229,025	439,378	3,855,564	301,288			165,240	20,065	7,249,829	760,731
Periwinkles and cockles			100	2					100	2
Scallops:										
Bay	48,000	17,100	594	30					48,594	17,130
Sea	1,823,492	193,445	373,589	22,402					2,197,081	215,847
Terrapin, diamond-back			502	145			410	260	912	405
Turtles, snapper			2,500	250			8,504	679	11,004	929
Bloodworms	9,250	8,390	1,740	1,505					10,990	9,895
Sandworms	3,500	2,080	5,403	4,645					8,903	6,725
Total	11,606,280	1,463,581	14,224,713	1,008,309			1,151,254	72,995	26,982,247	2,544,885
Grand total	39,911,432	2,452,565	93,263,437	2,146,324	52,232	2,980	36,526,634	209,186	169,753,735	4,811,055

[2] Statistics on hard clams are based on yields of 8 pounds of meats to the bushel in New York, 8.96 in New Jersey, and 10 pounds in Delaware.
[3] Statistics on soft clams used in this table are based on yields of 16 pounds of meats to the bushe lin New York and 20 pounds in New Jersey.
[4] Statistics on oysters used in this table are based on yields of 7 pounds of meats to the bushel in New York, 8.70 in New Jersey, and 7.88 in Delaware.

NOTE.—Of the total catch in New Jersey, 7,500 pounds of shad, valued at $600, were caught in the St. Johns River in Florida, and 1,447,252 pounds of fishery products, valued at $47,109, were taken in the southern trawl fishery off southern New Jersey, Maryland, Virginia, and North Carolina. Of the total catch in New York, 1,024,291 pounds of fishery products, valued at $35,928, were taken in the southern trawl fishery. The products of the southern trawl fishery consisted principally of croaker, flounders, scup and sea bass.

Industries related to the fisheries of the Middle Atlantic States

OPERATING UNITS, SALARIES, AND WAGES, 1933

Item	New York	New Jersey	Pennsylvania	Delaware	Total
Transporting:					
Persons engaged:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	100	10			110
On boats		92			92
Total	100	102			202
Vessels:					
Motor	26	4			30
Net tonnage	580	49			629
Boats		87			87
Wholesale and manufacturing:					
Establishments	210	124	49	15	398
Persons engaged:					
Proprietors	184	116	44	14	358
Salaried employees	775	159	113	20	1,067
Wage earners:					
Average for season	1,896	1,381	477	452	4,206
Average for year	1,457	906	396	189	2,948
Paid to salaried employees	$2,164,542	$311,040	$200,846	$12,460	$2,688,888
Paid to wage earners	$2,088,832	$785,657	$403,433	$119,171	$3,397,093
Total salaries and wages	$4,253,374	$1,096,697	$604,279	$131,631	$6,085,981
Fishermen manufacturing	348	157		7	512

PRODUCTS MANUFACTURED

Item	New York		New Jersey		Pennsylvania		Delaware	
By manufacturing establishments:								
Buffalofish, smoked pounds	*Quantity* 440,000	*Value* $131,750	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Butterfish, smoked do	408,600	100,050	80,896	$20,269	(1)	(1)		
Carp, smoked do	91,000	27,200	(1)	(1)				
Chubs, cisco, lake herring, and tullibee, smoked pounds	2,495,880	534,914	(1)	(1)	330,000	$93,000		
Cod:								
Fresh fillets [2] do	2,338,182	318,327	(1)	(1)				
Smoked fillets do	66,305	13,700	(1)	(1)				
Flounders, fresh fillets [2] pounds	1,224,250	193,433						
Haddock, fresh fillets [2] pounds	2,077,771	285,912	(1)	(1)				
Hake, fresh fillets [2] do	128,172	15,017	(1)	(1)				
Herring, sea:								
Kippered do	55,100	10,210	(1)	(1)	(3)	(3)		
Bloaters do	(1)	(1)	(1)	(1)	540,000	30,250		
Lake trout, smoked do	90,400	28,650	(1)	(1)	(1)	(1)		
Mackerel, smoked do	77,300	13,602	(1)	(1)	(1)	(1)		
Paddlefish or spoonbill cat, smoked pounds	338,600	155,920						
Pollock, fresh fillets [2] pounds	103,526	13,050						
Salmon:								
Kippered do	269,000	82,700	(4)	(4)	(1)	(1)		
Smoked do	5,427,102	1,494,928	478,966	130,864	(1)	(1)		
Roe, canned [2] standard cases	860	20,164						
Shad, smoked pounds	149,000	30,400	(1)	(1)	(1)	(1)		
Sturgeon, smoked do	1,084,000	548,660	205,987	149,781	(1)	(1)		
Sturgeon, caviar, canned [2] standard cases	3,126	396,824						
Whitefish, smoked pounds	1,104,000	297,750	(1)	(1)	340,000	85,200		
Whitefish roe and caviar, canned [2] standard cases	179	6,803						
Crabs, king, scrap, and meal [2] tons			250	9,730			(1)	(1)
Clams:								
Hard, fresh shucked gallons			1,875	2,723	4,110	14,495		
Soft, fresh shucked gallons			16,360	14,902				
Marine-shell products:								
Buttons [2] gross	512,531	391,109	1,267,703	955,660	(1)	(1)		
Novelties [2]		44,066		130,619				

See footnotes at end of table.

Industries related to the fisheries of the Middle Atlantic States—Continued

PRODUCTS MANUFACTURED—Continued

Item	New York		New Jersey		Pennsylvania		Delaware	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments—Continued.								
Oysters, fresh shucked gallons	265, 967	$469, 016	372, 848	$577, 217	60, 958	$139, 056	39, 671	$48, 434
Oyster-shell products:								
Poultry feed [2] tons	----------	----------	4, 951	41, 104	2, 978	26, 192	(1)	(1)
Lime [2] do	----------	----------	2, 083	8, 986	1, 169	4, 208	(1)	(1)
Unclassified products:								
Fillets, fresh and frozen [2] pounds	[5] 245, 000	[5] 52, 550	(6)	(6)				
Smoked do	(6)	(6)	[7] 581, 349	[7] 162, 675	(6)	(6)		
Canned [3] standard cases	[8] 8, 420	[8] 88, 268	(6)	(6)				
Miscellaneous [9]	----------	[10] 471, 321	----------	[11] 1, 111, 401	----------	[12] 702, 240	----------	[13] 303, 208
Total	----------	6, 236, 294	----------	3, 315, 931	----------	1, 094, 641	----------	351, 642
By fishermen:								
Bluefish, smoked pounds	----------	----------	50	2	----------	----------	----------	----------
Eels:								
Smoked do	2, 150	537	5, 450	1, 675	----------	----------	----------	----------
Pickled do	----------	----------	48	14	----------	----------	----------	----------
Herring, sea, smoked pounds	----------	----------	4, 900	196	----------	----------	----------	----------
Mackerel, smoked do	----------	----------	100	20	----------	----------	----------	----------
Hake, smoked do	----------	----------	50	5	----------	----------	----------	----------
Whiting, smoked do	----------	----------	50	5	----------	----------	----------	----------
Clams, soft, fresh shucked gallons	----------	----------	6, 840	5, 244	----------	----------	----------	----------
Scallops:								
Bay, fresh shucked gallons	5, 400	17, 100	----------	----------	----------	----------	----------	----------
Sea, fresh shucked gallons	204, 555	192, 647	35, 603	33, 813	----------	----------	----------	----------
Sturgeon roe, salted pounds	----------	----------	50	33	----------	----------	----------	----------
King-crab scrap tons	----------	----------	214	6, 655	----------	----------	80	2, 200
Total	----------	210, 284	----------	47, 662	----------	----------	----------	2, 200
Grand total	----------	6, 446, 578	----------	3, 363, 593	----------	1, 094, 641	----------	353, 842

[1] The production of this item is included under "Unclassified products."
[2] Data are for 1934.
[3] Kippered sea herring is included with bloaters.
[4] Kippered salmon is included with smoked salmon.
[5] Includes fresh fillets of bluefish, halibut, mackerel, cusk, red snapper, salmon, sea bass, and wolffish.
[6] This has been included under "Miscellaneous."
[7] Includes smoked bluefish, carp, chubs, cisco, cod, eels, flounders, goosefish, haddock, lake trout, mackerel, sea herring (bloaters), shad, tullibee, and whitefish; and kippered sea herring.
[8] Includes canned clam products, pickled eels, terrapin and turtle products, and sea mussels.
[9] Both 1933 and 1934 data are included in these items.
[10] Includes smoked eels, haddock fillets, and sea herring (bloaters); fish meal; cod-liver oil; menhaden oil and meal; and fresh-water mussel-shell products.
[11] Includes canned hard clams and clam chowder, and oysters; shredded salt cod; fresh-cooked crab meat; fresh fillets of cod, hake and haddock; menhaden products; and fresh-water mussel-shell products.
[12] Includes smoked alewives, butterfish, finnan haddie, lake trout, mackerel, salmon, shad and sturgeon; kippered salmon and shad; and marine-shell products.
[13] Includes menhaden products, oyster-shell products, and king-crab scrap.

NOTE.—Unless otherwise indicated the data are for 1933. The total value of products for the Middle Atlantic States was as follows: By manufacturing establishments, $10,998,508; and by fishermen, $260,146. Some of the above products may have been manufactured from fishery products imported from another state or a foreign country; therefore, they cannot be correlated directly with the catch within the State. Of the total number of persons engaged on transporting craft, 135 have been included as fishermen and among the total number of persons engaged in the preparation of fishermen's prepared products, 511 have been included as fishermen.

SHAD FISHERY OF THE HUDSON RIVER

The shad fishery of the Hudson River in 1934 was prosecuted by 22 fishermen who used 5 motor boats, 149 other boats, 10 haul seines having a combined length of 1,869 yards, 126 drift gill nets having a total area of 505,050 square yards, 28 stake gill nets having a total area of 27,330 square yards, and 11 fyke nets. The total commercial catch amounted to 141,458 shad having a weight of 438,000 pounds

and a value to the fishermen of $36,074. This is a decrease of 8 percent in the number of shad and 11 percent in their value as compared with 1933. The average price per pound received by the fishermen in both 1934 and 1933 was about 8 cents.

Drift gill nets accounted for 69 percent of the weight of the shad taken, while stake gill nets accounted for 29 percent. Small quantities, amounting to 2 percent, were taken by haul seines and fyke nets.

Shad fishery of the Hudson River, 1934

Item	New York			New Jersey			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
Fishermen:									
On boats and shore:									
Regular	103			6			109		
Casual	177			36			213		
Total	280			42			322		
Boats:									
Motor				5			5		
Other	140			9			149		
Apparatus:									
Haul seines	10						10		
Length, yards	1,869						1,869		
Gill nets:									
Drift	126						126		
Square yards	505,050						505,050		
Stake	14			14			28		
Square yards	2,410			24,920			27,330		
Fyke nets	11						11		
Shad caught:									
With haul seines	1,020	3,000	$261				1,020	3,000	$261
With drift gill nets	102,281	302,900	23,770				102,281	302,900	23,770
With stake gill nets	1,142	3,500	313	35,360	123,800	$11,310	36,502	127,300	11,623
With fyke nets	1,655	4,800	420				1,655	4,800	420
Total	106,098	314,200	24,764	35,360	123,800	11,310	141,458	438,000	36,074

FISHERIES OF THE CHESAPEAKE BAY STATES

(Area XXIII)[8]

The yield of the commercial fisheries of the Chesapeake Bay States (Maryland and Virginia) during 1934 amounted to 289,010,900 pounds valued at $5,943,410 to the fishermen, representing an increase of 6 percent in volume and 17 percent in value as compared with the catch in the previous year. These fisheries gave employment to 20,591 fishermen, as compared with 20,142 in 1933.

There were 544 fishery wholesale and manufacturing establishments in the two States in 1934, as compared with 502 in 1933. In 1934 these establishments employed 12,517 persons, paid $2,758,749 in salaries and wages, and produced manufactured products (canned, cured, packaged, and byproducts), valued at $7,826,195. In 1933 the wholesale and manufacturing firms employed 11,596 persons, paid $2,366,762 in salaries and wages, and produced manufactured products valued at $7,245,169.

[8] This is the number given to this area by the North American Council on Fishery Investigations. It should be explained that there are included under this area, craft whose principal fishing ports are in the area but at times fish elsewhere. A notable example is the southern trawl fishery, which extends into area XXIV. Data on the operating units and catch of the fisheries of the Chesapeake Bay States have been taken largely from statistics collected by the State fishery agencies of Maryland and Virginia. Supplementary surveys, compilations, and analyses have been made by agents of this Bureau in order that the figures may be presented in a manner comparable with those of other sections. It should be observed that the persons engaged, gear and craft employed, and catch of the seed oyster fishery are not included among the statistics of the fishery for market oysters and other species but are shown in separate tables in this section. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the Chesapeake Bay States, 1934

SUMMARY OF CATCH

Product	Maryland		Virginia		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	12,325,000	$368,321	198,292,500	$1,847,103	210,617,500	$2,215,424
Shellfish, etc.	29,885,000	1,398,166	48,508,400	2,329,820	78,393,400	3,727,986
Total	42,210,000	1,766,487	246,800,900	4,176,923	289,010,900	5,943,410

OPERATING UNITS: BY STATES

Item	Maryland	Virginia	Total
Fishermen:	*Number*	*Number*	*Number*
On vessels	645	1,487	2,132
On boats and shore:			
Regular	4,721	6,010	10,731
Casual	2,310	5,418	7,728
Total	7,676	12,915	20,591
Vessels:			
Steam		26	26
Net tonnage		2,937	2,937
Motor		115	115
Net tonnage		1,688	1,688
Sail	136		136
Net tonnage	1,513		1,513
Total vessels	136	141	277
Total net tonnage	1,513	4,625	6,138
Boats:			
Motor	2,900	3,965	6,865
Other	2,249	3,603	5,852
Accessory boats		96	96
Apparatus:			
Purse seines, menhaden		32	32
Length, yards		9,770	9,770
Haul seines	305	183	488
Length, yards	31,735	51,426	83,161
Gill nets:			
Anchor	64		64
Square yards	16,724		16,724
Drift	272	312	584
Square yards	337,112	214,266	551,378
Stake	3,399	6,802	10,201
Square yards	292,614	390,811	683,425
Lines:			
Hand	10		10
Hooks	20		20
Trot with baits or snoods	1,531	1,437	2,968
Baits or snoods	945,000	1,075,280	2,020,280
Trot with hooks		1	1
Hooks		100	100
Pound nets	531	1,810	2,341
Stop nets		2	2
Square yards		5,310	5,310
Fyke nets	1,900	740	2,640
Dip nets	1,321	2,391	3,712
Otter trawls		25	25
Yards at mouth		742	742
Pots, eel	13,248	335	13,583
Spears	2		2
Scrapes	582	4	586
Yards at mouth	582	4	586
Dredges:			
Crab		200	200
Yards at mouth		347	347
Oyster	374	316	690
Yards at mouth	422	356	778
Tongs:			
Oyster	4,380	4,342	8,722
Other	40	1,017	1,057
Rakes:			
Oyster		34	34
Other	10	121	131
Picks		350	350

Fisheries of the Chesapeake Bay States, 1934—Continued

CATCH: BY STATES

Species	Maryland		Virginia		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	5,233,400	$56,581	5,846,200	$38,973	11,079,600	$95,554
Black bass	32,600	2,615			32,600	2,615
Bluefish	328,900	13,069	936,500	41,975	1,265,400	55,044
Bonito	400	16	19,600	731	20,000	747
Butterfish	452,000	18,337	3,339,300	102,443	3,791,300	120,780
Cabio or crab eater			25,300	1,063	25,300	1,063
Carp	208,700	13,450	251,600	10,695	460,300	24,145
Catfish and bullheads	266,600	10,667	509,800	20,939	776,400	31,606
Cod			1,500	25	1,500	25
Crappie	800	23			800	23
Croaker	2,131,100	32,240	19,942,800	233,670	22,073,900	265,910
Cutlassfish			1,900	5	1,900	5
Dolphin	100	10			100	10
Drum:						
Black			37,500	750	37,500	750
Red or redfish	7,000	92	52,800	966	59,800	1,058
Eels:						
Common	158,400	11,669	115,600	12,054	274,000	23,723
Conger	400	6	2,100	39	2,500	45
Flounders	29,100	1,709	970,600	47,044	999,700	48,753
Gizzard shad	18,700	281	95,400	1,184	114,100	1,465
Haddock			500	4	500	4
Hake			21,400	284	21,400	284
Harvestfish	26,100	708	262,800	11,099	288,900	11,807
Herring, sea			361,400	2,638	361,400	2,638
Hickory shad	13,400	284	94,600	1,923	108,000	2,207
King whiting or "kingfish"	4,700	235	101,600	4,658	106,300	4,893
Mackerel			15,000	1,174	15,000	1,174
Menhaden			143,878,800	600,413	143,878,800	600,413
Minnows			56,600	3,081	56,600	3,081
Mullet	29,000	1,540	85,000	2,823	114,000	4,363
Pigfish			8,900	159	8,900	159
Pike or pickerel	18,600	2,967	4,200	407	22,800	3,374
Scup	39,000	705	692,400	19,031	731,400	19,736
Sea bass	10,000	350	127,000	4,919	137,000	5,269
Sea robin			600	18	600	18
Shad	885,300	89,582	4,104,400	314,960	4,989,700	404,542
Sharks			20,200	483	20,200	483
Silver perch	6,000	145			6,000	145
Skates			10,100	80	10,100	80
Spanish mackerel	700	70	52,200	4,131	52,900	4,201
Spot	62,300	1,912	2,041,200	58,707	2,103,500	60,619
Squeteagues or "sea trout":						
Gray	1,477,700	42,614	13,405,800	253,360	14,883,500	295,974
Spotted	7,900	791	49,100	2,531	57,000	3,322
Striped bass	332,700	37,122	309,800	29,061	642,500	66,183
Sturgeon	200	10	8,300	1,079	8,500	1,089
Suckers	8,300	342	13,300	331	21,600	673
Sunfish	600	22	24,000	600	24,600	622
Swellfish			1,700	59	1,700	59
Tautog	100	5	500	7	600	12
Thimble-eyed mackerel			22,000	345	22,000	345
White perch	419,000	21,303	315,400	12,670	734,400	33,973
Whiting			4,500	68	4,500	68
Yellow perch	115,200	6,849	50,700	3,444	165,900	10,293
Total	12,325,000	368,321	198,292,500	1,847,103	210,617,500	2,215,424
SHELLFISH, ETC.						
Crabs:						
Hard	13,620,900	274,734	22,516,000	464,044	36,136,900	738,778
Soft	2,288,800	215,204	1,370,300	95,982	3,659,100	311,186
Lobsters			100	12	100	12
Clams, hard, public	32,000	3,000	2,609,100	364,370	2,641,100	367,370
Mussels, sea			23,400	540	23,400	540
Oysters: [1]						
Market, public, spring	3,902,300	229,243	4,783,300	291,642	8,685,600	520,885
Market, public, fall	8,685,100	513,154	5,217,500	312,563	13,902,600	825,717
Market, private, spring	567,300	73,065	5,490,800	369,965	6,058,100	443,030
Market, private, fall	762,600	87,421	6,377,200	425,648	7,139,800	513,069
Scallops, sea			1,300	896	1,300	896
Squid	21,000	835	92,800	3,179	113,800	4,014
Terrapin, diamond back	3,000	1,400	23,200	870	26,200	2,270
Turtles, snapper	2,000	110	3,400	109	5,400	219
Total	29,885,000	1,398,166	48,508,400	2,329,820	78,393,400	3,727,986
Grand total	42,210,000	1,766,487	246,800,900	4,176,923	289,010,900	5,943,410

[1] Statistics on oysters used in this table are based on yields of 6.24 pounds of meats to the bushel for market oysters in Maryland and 6.32 pounds in Virginia.

Fisheries of the Chesapeake Bay States, 1934—Continued

SUPPLEMENTARY TABLE SHOWING THE PRODUCTION OF CERTAIN SHELLFISH IN NUMBER AND BUSHELS

Product	Maryland		Virginia		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:						
Hard, number	40,862,700	$274,734	67,548,000	$464,044	108,410,700	$738,778
Soft, do	9,155,200	215,204	5,481,200	95,982	14,636,400	311,186
Clams, hard, bushels	4,000	3,000	326,138	364,370	330,138	367,370
Mussels, do			1,800	540	1,800	540
Oysters:						
Market, public, spring, do	625,369	229,243	756,851	291,642	1,382,220	520,885
Market, public, fall, do	1,391,843	513,154	825,554	312,563	2,217,397	825,717
Market, private, spring, do	90,913	73,065	868,797	369,965	959,710	443,030
Market, private, fall, do	122,212	87,421	1,009,051	425,648	1,131,263	513,069
Scallops, sea, do			217	896	217	896

SEED OYSTER FISHERY

Item	Maryland	Virginia	Total
OPERATING UNITS			
Fishermen:	*Number*	*Number*	*Number*
On vessels	4	24	28
On boats and shore:			
Regular		1,005	1,005
Casual		120	120
Total	4	1,149	1,153
Vessels:			
Motor		7	7
Net tonnage		69	69
Sail	1		1
Net tonnage	23		23
Total vessels	1	7	8
Total net tonnage	23	69	92
Boats:			
Motor		558	558
Other		36	36
Apparatus:			
Dredges	2	8	10
Yards at mouth	3	16	19
Tongs		1,131	1,131

CATCH	Maryland		Virginia		Total	
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	3,000	$360	1,153,083	$173,664	1,156,083	$174,024
Seed, public, fall	3,000	360	864,342	130,348	867,342	130,708
Seed, private, spring			32,868	1,643	32,868	1,643
Seed, private, fall			32,868	1,644	32,868	1,644
Total	6,000	720	2,083,161	307,299	2,089,161	308,019

NOTE.—Of the number of persons fishing for seed oysters, 1,005 are duplicated among those fishing for market oysters or other species. Similarly, the following craft and gear are duplicated: 6 vessels, 461 motorboats, 36 other boats, 8 dredges, and 987 tongs.

Industries related to the fisheries of the Chesapeake Bay States, 1934

OPERATING UNITS, SALARIES, AND WAGES

Item	Maryland	Virginia	Total
Transporting:			
Persons engaged:	*Number*	*Number*	*Number*
On vessels	334	637	971
On boats	----------	137	137
Total	334	774	1,108
Vessels:			
Steam	----------	1	1
Net tonnage	----------	103	103
Motor	156	277	433
Net tonnage	2,186	3,150	5,336
Sail	15	----------	15
Net tonnage	387	----------	387
Total vessels	171	278	449
Total net tonnage	2,573	3,253	5,826
Boats	----------	111	111
Wholesale and manufacturing:			
Establishments	319	225	544
Persons engaged:			
Proprietors	424	265	689
Salaried employees	198	165	363
Wage earners:			
Average for season	5,977	5,488	11,465
Average for year	2,591	2,463	5,054
Paid to salaried employees	$308,800	$209,440	$518,240
Paid to wage earners	$1,223,183	$1,017,326	$2,240,509
Total salaries and wages	$1,531,983	$1,226,766	$2,758,749
Fishermen manufacturing	79	55	134

PRODUCTS MANUFACTURED

Item	Maryland		Virginia	
By manufacturing establishments:				
Alewives:				
Salted:	*Quantity*	*Value*	*Quantity*	*Value*
Corned—pounds	(1)	(1)	456,320	$11,500
Pickled [2]—do	1,034,710	$38,875	(3)	(3)
Tight-pack cut—do	----------	----------	341,600	9,070
Canned—standard cases	17,951	52,585	548	1,459
Roe, canned—do	5,525	29,917	7,942	36,805
Dry scrap—tons	(3)	(3)	370	12,008
Oil—gallons	(1)	(1)	12,750	1,430
Croaker:				
Fresh fillets—pounds	----------	----------	37,500	3,630
Fresh, pandressed—do	----------	----------	560,000	30,150
Flounders, fresh fillets—do	----------	----------	32,000	5,800
Haddock, fresh fillets—do	----------	----------	9,500	1,350
Menhaden products:				
Dry scrap and meal—tons	----------	----------	17,645	565,354
Oil—gallons	----------	----------	1,253,924	248,401
Sea bass, fresh fillets—pounds	----------	----------	41,500	6,225
Squeteagues:				
Fresh fillets—do	----------	----------	105,000	8,880
Fresh, pandressed—do	----------	----------	965,000	54,350
Crabs, blue:				
Meat, packaged, fresh cooked—do	2,124,687	704,576	1,656,798	634,812
Dry scrap—tons	(3)	(3)	1,183	18,285
Clams, hard, fresh shucked—gallons	----------	----------	3,778	6,254
Oysters, fresh shucked—do	1,988,799	2,017,691	1,990,505	2,193,455
Oyster-shell products:				
Poulty feed—tons	35,602	178,443	10,689	57,235
Lime—do	21,346	35,483	9,376	26,786
Lime, "burned"—do	----------	----------	9,277	51,510
Unclassified products:				
Canned—standard cases	[4] 42,294	[4] 183,976	(1)	(1)
Scrap and meal—tons	[5] 680	[5] 12,690	[6] 2,459	[6] 45,481
Miscellaneous	----------	[7] 500,514	----------	[8] 41,215
Total	----------	3,754,750	----------	4,071,445

See footnotes at end of table.

Industries related to the fisheries of the Chesapeake Bay States, 1934—Continued

PRODUCTS MANUFACTURED—Continued

Item		Maryland		Virginia	
By fishermen:		*Quantity*	*Value*	*Quantity*	*Value*
Alewives:					
Corned	pounds			16,000	$320
Pickled	do	8,300	$326	1,000	30
Eels:					
Smoked	do	400	100		
Salted	do	102,152	6,922		
Sturgeon roe, salted	do	30	15	287	258
Oysters, fresh shucked	gallons			3,746	3,057
Scallops, sea, fresh shucked	do			148	200
Total			7,363		3,865
Grand total			3,762,113		4,075,310

[1] The production of this item is included under "Miscellaneous."
[2] This item is usually an intermediate product, and, although included in the total, may be shown in its final stage of processing in this or another State.
[3] The production of this item is included under "Unclassified products."
[4] Includes canned hard-clam chowder, oysters, and terrapins.
[5] Includes alewife dry scrap and blue-crab meal.
[6] Includes menhaden acid scrap, and miscellaneous dry and acidulated scrap.
[7] Includes corned alewives; smoked alewives, butterfish, carp, chub, cisco, eels, herring, salmon, sturgeon, tullibees, and whitefish; herring, bloaters; kippered salmon; alewife oil; marine-shell products; and pearl essence.
[8] Includes salted tight-pack alewife roe; pickled alewives; pan-dressed frozen croaker and squeteagues; menhaden oil; and canned blue crabs.

NOTE.—The total value of manufactured products in the Chesapeake Bay States was as follows: By manufacturing establishments, $7,826,195; and by fishermen, $11,228. Some of the above products may have been imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State. Of the total number of persons engaged on transporting vessels and boats, 483 have been included as fishermen, and among the total number of persons engaged in the preparation of fishermen's prepared products, all have been included as fishermen.

MARYLAND

Fisheries of Maryland, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets			Lines		Pound nets	Fyke nets	Dip nets
		Anchor	Drift	Stake	Hand	Trot with baits or snoods			
Fishermen:									
On boats and shore:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	362	6	38	103	10	1,088	369	55	740
Casual	298	3	331	109		180	126	69	581
Total	660	9	369	212	10	1,268	495	124	1,321
Boats:									
Motor	138	7	84	92	5	1,120	175	48	15
Other	204	3	129	70		139	165	78	1,230
Apparatus:									
Number	305	64	272	3,399	10	1,531	531	1,900	1,321
Length, yards	31,735								
Square yards		16,724	337,112	292,614					
Hooks, baits, or snoods					20	945,000			

Fisheries of Maryland, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Pots, eel	Spears	Scrapes	Dredges, oyster	Tongs		Rakes, other than for oysters	By hand, other than for oysters	Total, exclusive of duplication
					Oyster	Other			
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				645					645
On boats and shore:									
Regular	125	2	321	88	3,550	40	10	24	4,721
Casual	29				828				2,310
Total	154	2	321	733	4,378	40	10	24	7,676
Vessels, sail				136					136
Net tonnage				2,513					1,513
Boats:									
Motor	122			19	2,035	13			2,900
Other	33	1	286	32	149	35	10	10	2,249
Apparatus:									
Number	13,248	2	582	374	4,380	40	10		
Yards at mouth			582	422					

CATCH: By gear

Species	Haul seines		Gill nets					
			Anchor		Drift		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	61,900	$733			8,800	$191	32,100	$776
Black bass	17,700	1,370					600	48
Bluefish	91,900	2,495			45,000	2,650	8,600	437
Butterfish	2,100	78						
Carp	178,900	11,914			300	10	1,000	44
Catfish and bullheads	60,600	2,498					600	31
Crappie	100	4					200	8
Croaker	273,400	3,609			2,100	47	12,800	281
Drum, red or redfish	2,700	27						
Eels, common	2,200	153						
Flounders	900	42						
Gizzard shad	4,200	43						
Mullet					29,000	1,540		
Pike or pickerel	6,200	1,093					1,200	242
Shad	1,100	83	16,400	$1,730	227,100	20,944	94,900	9,950
Silver perch	5,800	139						
Spot	12,700	424			2,300	67	700	29
Squeteagues or "sea trout":								
Gray	202,700	7,955			6,800	316	3,500	219
Spotted	7,500	750						
Striped bass	77,000	8,322	6,500	797	42,500	4,788	53,300	6,318
Suckers	3,200	126					400	13
Sunfish	300	12					300	10
White perch	57,100	3,052			8,400	660	38,300	2,369
Yellow perch	20,100	1,133					500	43
Crabs, soft	205,500	26,527						
Total	1,295,800	72,582	22,900	2,527	372,300	31,213	249,000	20,818

Fisheries of Maryland, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines				Pound nets		Fyke nets	
	Hand		Trot with baits or snoods					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					5,127,500	$54,817	3,100	$64
Black bass					100	7	14,200	1,190
Bluefish	50,000	$2,500			132,400	4,957	1,000	30
Bonito	400	16						
Butterfish					449,900	18,259		
Carp					16,200	731	12,300	751
Catfish and bullheads					78,800	2,974	126,600	5,164
Crappie							500	11
Croaker					1,835,800	28,163	7,000	140
Dolphin	100	10						
Drum, red or redfish					4,300	65		
Eels:								
Common					9,700	699	8,100	618
Conger	400	6						
Flounders	1,000	80			27,000	1,573	200	14
Gizzard shad					14,500	238		
Harvestfish					26,100	708		
Hickory shad					13,400	284		
King whiting or "kingfish"					4,700	235		
Pike or pickerel					2,400	350	8,800	1,282
Scup	2,500	50			36,500	655		
Sea bass	10,000	350						
Shad					543,800	56,703		
Silver perch							200	6
Spanish mackerel					700	70		
Spot					46,100	1,377	500	15
Squeteagues or "sea trout":								
Gray	2,500	250			1,259,600	33,744	2,600	130
Spotted					400	41		
Striped bass					148,900	16,343	4,500	554
Sturgeon					200	10		
Suckers					1,000	51	3,700	152
Tautog	100	5						
White perch					180,700	8,734	134,500	6,488
Yellow perch					10,100	568	84,500	5,105
Crabs, hard			13,010,800	$262,532				
Squid					21,000	835		
Turtles, snapper							2,000	110
Total	67,000	3,267	13,010,800	262,532	9,991,800	233,191	414,300	21,824

Species	Dip nets		Pots, eel		Spears		Scrapes	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common			136,600	$10,019	1,800	$180		
Shad	2,000	$172						
Crabs:								
Hard	3,500	70					606,600	$12,132
Soft	1,364,300	129,566					719,000	59,111
Total	1,369,800	129,808	136,600	10,019	1,800	180	1,325,600	71,243

Species	Dredges		Tongs		Rakes		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard, public			28,800	$2,700	2,600	$240	600	$60
Oysters:								
Market, public, spring	613,700	$34,936	3,288,600	194,307				
Market, public, fall	2,467,700	138,683	6,217,400	374,471				
Market, private, spring	38,600	6,775	528,700	66,290				
Market, private, fall	47,500	9,120	715,100	78,301				
Terrapin, diamond back							3,000	1,400
Total	3,167,500	189,514	10,778,600	716,069	2,600	240	3,600	1,460

Fisheries of Maryland, 1934—Continued

OPERATING UNITS: BY COUNTIES

Item	Anne Arundel	Baltimore	Calvert	Caroline	Cecil	Charles	Dorchester	Harford
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels		13	8				200	
On boats and shore:								
Regular	498	8	203	10	34	115	769	5
Casual	365	66	83	29	79	222	159	55
Total	863	87	294	39	113	337	1,128	60
Vessels, sail		3	2				40	
Net tonnage		64	32				356	
Boats:								
Motor	345	23	103	5	40	140	499	24
Other	240	43	128	17	40	80	145	16
Apparatus:								
Haul seines	50	11	1	4	24	19	5	10
Length, yards	1,630	3,450	135	1,150	5,920	3,270	1,750	3,150
Gill nets:								
Anchor					64			
Square yards					16,724			
Drift	2		1	20	25	35	24	24
Square yards	1,500		600	2,620	32,750	120,323	25,293	35,494
Stake	8	26	5	60	62	1,014	175	276
Square yards	1,064	1,212	400	1,666	2,482	74,971	6,300	47,070
Lines:								
Trot with baits or snoods	85	36	41			24	543	
Baits or snoods	45,000	17,800	18,500			22,000	245,000	
Pound nets	23	15	13	10	25	32	114	4
Fyke nets	4	240		16	701	52	9	280
Dip nets	182		111			29	99	
Pots, eel	250	411		75	500	46	3,548	87
Dredges, oyster		6	4				90	
Yards at mouth		9	5				102	
Tong, oyster	755		240			188	624	

Item	Kent	Prince Georges	Queen Annes	St. Marys	Somerset	Talbot	Wicomico	Worcester
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels				4	364	56		
On boats and shore:								
Regular	378		542	457	750	544	292	116
Casual	234	23	111	267	153	192	147	125
Total	612	23	653	728	1,267	792	439	241
Vessels, sail				1	78	12		
Net tonnage				10	960	91		
Boats:								
Motor	211	3	233	272	350	399	163	90
Other	156	12	112	265	556	220	69	150
Apparatus:								
Haul seines	73	8	73	6	12	1	1	7
Length, yards	4,142	845	2,365	1,205	1,008	250	500	965
Gill nets:								
Drift	21	8			11	3	77	21
Square yards	42,105	12,385			2,680	4,394	53,050	3,918
Stake	1,048	3	35		211	60	416	
Square yards	125,460	600	4,104		3,940	6,705	16,640	
Lines:								
Hand								10
Hooks								20
Trot with baits or snoods	113		92	136	74	259	7	121
Baits or snoods	65,500		69,000	130,800	53,200	192,000	5,600	80,600
Pound nets	24	2	8	73	48	102	19	19
Fyke nets	408	60	50		42	18	20	
Dip nets	50		100	200	359	160		31
Pots, eel	784	41	1,290	18		6,092	6	100
Spears								2
Scrapes					582			
Yards at mouth					582			
Dredges, oyster				2	220	24		28
Yards at mouth				2	256	28		20
Tongs:								
Oyster	377		562	471	339	396	316	112
Other								40
Rakes, other than for oysters								10

Fisheries of Maryland, 1934—Continued

CATCH: BY COUNTIES

Species	Anne Arundel		Baltimore		Calvert		Caroline	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	371,500	$4,100	37,300	$646	157,000	$1,670	8,800	$146
Black bass			200	30				
Bluefish	126,600	2,500	9,400	386	2,100	210	1,800	90
Butterfish	2,400	96						
Carp	2,400	161	13,900	878	600	42	10,400	822
Catfish and bullheads	700	31	17,800	759	9,600	322	5,600	223
Croaker	125,400	2,022	3,300	129	23,000	440	500	10
Eels, common	16,600	1,020	7,900	483	100	11	2,200	111
Flounders	500	27	200	10	400	30		
Gizzard shad	2,500	25	4,100	60	400	8	5,000	100
Harvestfish	500	12						
Hickory shad	300	11	700	14				
Pike or pickerel			600	100	300	39		
Shad	27,400	2,738	1,000	120	25,400	3,801	2,300	240
Spot	9,400	248	4,500	96	600	38		
Squeteagues or "sea trout", gray	258,500	12,686	4,700	362	8,800	536	5,500	325
Striped bass	4,400	520	12,600	1,554	1,200	127	15,000	1,814
Suckers					900	62	100	9
White perch	2,000	92	77,400	3,774	4,800	321	19,700	1,256
Yellow perch	200	13	11,700	709	2,800	168	800	48
Crabs:								
Hard	439,000	8,780	156,500	6,156	160,000	3,600		
Soft	67,100	7,479			80,800	8,623		
Oysters:								
Market, public, spring	546,900	36,445	14,400	789	73,900	4,926		
Market, public, fall	1,039,000	69,741	109,200	5,880	238,900	15,777		
Market, private, spring					63,000	5,375		
Market, private, fall					54,000	4,500		
Total	3,043,300	148,747	487,400	22,935	908,600	50,626	77,700	5,194

Species	Cecil		Charles		Dorchester		Hartford	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	494,500	$3,331	5,300	$120	275,400	$3,774	113,000	$1,010
Black bass	19,500	1,488	2,100	210			6,600	480
Bluefish			200	8	25,300	1,537		
Butterfish					3,400	158		
Carp	22,900	1,503	52,300	2,481	5,500	240	46,100	3,897
Catfish and bullheads	66,000	2,554	25,400	1,021	9,700	466	32,700	1,340
Crappie	600	15					200	8
Croaker			6,100	126	171,600	2,568		
Drum, red or redfish					600	12		
Eels, common	8,500	482	2,700	266	58,700	4,696	3,700	236
Flounders			100	3	9,300	358		
Gizzard shad	300	6	3,400	27	200	4		
Hickory shad	200	4			200	4		
Pike or pickerel	8,600	1,232	1,100	191			5,300	1,002
Shad	78,900	8,573	23,100	2,363	78,000	6,904	31,900	3,361
Silver perch			1,800	59				
Spot			100	3	2,000	81		
Squeteagues or "sea trout", gray			8,700	541	36,300	1,349		
Striped bass	29,500	3,229	34,800	4,361	19,900	2,269	18,800	2,398
Sturgeon	200	10						
Suckers	1,400	50	100	3			1,600	37
Sunfish							600	22
White perch	61,200	2,943	21,900	1,277	47,300	1,822	33,700	1,680
Yellow perch	47,300	2,368	3,300	194			22,000	1,293
Crabs:								
Hard			227,000	4,300	3,486,800	69,736		
Soft			3,500	470	219,900	17,587		
Oysters:								
Market, public, spring			77,000	4,806	450,100	26,320		
Market, public, fall			105,300	6,744	1,043,200	60,778		
Terrapin, diamond back					1,000	500		
Turtles, snapper	2,000	110						
Total	841,600	27,898	605,300	29,574	5,944,400	201,163	316,200	16,764

Fisheries of Maryland, 1934—Continued

CATCH: BY COUNTIES—Continued

Species	Kent		Prince Georges		Queen Annes		St. Marys	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	133,300	$1,898	1,000	$20	23,900	$284	287,400	$2,879
Black bass	200	20	3,900	380				
Bluefish	16,800	692			3,700	170	16,100	861
Butterfish	700	23					2,800	135
Carp	8,300	265	28,100	1,881	12,000	942	700	35
Catfish and bullheads	37,300	1,490	12,800	510	5,100	198	1,600	74
Croaker	373,000	5,999			7,100	203	85,200	1,509
Eels, common	7,200	574	300	22	5,000	541	1,700	91
Flounders	100	5					3,200	180
Gizzard shad	900	18					500	7
Hickory shad	100	2					2,300	52
Pike or pickerel	2,300	355	400	48				
Shad	97,900	10,000	3,200	335	1,400	155	71,900	6,304
Silver perch			4,200	86				
Spot	4,700	162			100	4	9,100	273
Squeteagues or "sea trout", gray	57,800	2,640	100	4			36,900	1,492
Striped bass	98,400	10,187	700	76	3,200	459	36,000	3,977
Suckers	500	28	2,000	80	600	18		
White perch	97,000	4,873	2,300	185	6,000	355	5,000	330
Yellow perch	14,500	721	1,800	136	8,800	1,057	100	8
Crabs:								
Hard	430,300	8,606			596,400	11,968	770,000	15,400
Soft	113,100	14,519			98,200	19,566	88,000	7,880
Oysters:								
Market, public, spring	396,500	23,128			816,200	47,614	197,700	10,033
Market, public, fall	834,200	48,660			1,707,100	99,622	285,800	14,417
Market, private, spring							87,000	6,525
Market, private, fall							78,000	6,500
Total	2,725,100	134,865	60,800	3,763	3,294,800	183,156	2,067,000	78,962

Species	Somerset		Talbot		Wicomico		Worcester	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	345,700	$3,807	2,856,900	$31,629	57,400	$659	65,000	$608
Black bass					100	7		
Bluefish	5,700	369	51,900	2,906	10,500	325	58,800	3,015
Bonito							400	16
Butterfish	6,200	415			1,500	110	435,000	17,400
Carp	500	21	1,300	74	3,700	208		
Catfish and bullheads	9,800	416	7,600	323	23,400	865	1,500	75
Croaker	309,300	3,048	200,600	3,716	25,000	450	801,000	12,020
Dolphin							100	10
Drum, red or redfish	2,700	27					3,700	53
Eels:								
Common	1,700	86	33,500	2,370	2,300	145	6,300	535
Conger							400	6
Flounders	3,800	228	2,300	124	5,200	414	4,000	330
Gizzard shad					1,400	26		
Harvestfish	1,600	126			9,000	270	15,000	300
Hickory shad	6,100	91	3,000	88	200	4	300	14
King whiting or "kingfish"							4,700	235
Mullet							29,000	1,540
Scup							39,000	705
Sea bass							10,000	350
Shad	95,300	8,857	208,600	24,164	116,100	9,724	22,900	1,943
Spanish mackerel							700	70
Spot	6,600	260	2,200	74	1,200	26	21,800	647
Squeteagues or "sea trout":								
Gray	139,900	4,961	30,300	1,468	34,500	1,005	855,700	15,245
Spotted	7,900	791						
Striped bass	4,100	436	22,900	2,346	31,200	3,369		
Suckers			200	10			900	45
Tautog							100	5
White perch	8,200	435	12,100	631	17,900	1,159	2,500	170
Yellow perch			1,200	88	700	46		
Crabs:								
Hard	2,622,900	52,458	3,536,800	69,842	40,000	800	1,155,200	23,088
Soft	1,458,700	119,388	115,700	16,192			43,800	3,500
Clams, hard, public							32,000	3,000
Oysters:								
Market, public, spring	786,600	43,509	457,600	26,694	85,400	4,979		
Market, public, fall	2,246,600	128,778	959,200	55,953	116,600	6,804		
Market, private, spring	52,900	2,848			146,700	8,557	217,700	49,760
Market, private, fall	168,500	10,521			233,300	13,608	228,800	52,292
Squid							21,000	835
Terrapin, diamond back	2,000	900						
Total	8,293,300	382,776	8,503,900	238,692	963,300	53,560	4,077,300	187,812

Fisheries of Maryland, 1934—Continued

SEED OYSTER FISHERY: By gear

Item	Oyster dredges	
OPERATING UNITS	*Number*	
ishermen, on vessels	4	
essels, sail	1	
Net tonnage	23	
pparatus, number	2	
Yards at mouth	3	
CATCH	*Bushels*	*Value*
ysters, seed, public, spring	3,000	$360
ysters, seed, public, fall	3,000	360
Total	6,000	720

Note.—Of the persons and gear employed in the seed oyster fishery all are duplicated among those in ie market oyster fishery or fisheries for other species. The seed oyster fishery of Maryland was confined) Calvert County.

VIRGINIA

Fisheries of Virginia, 1934

OPERATING UNITS: By gear

Item	Purse seines, menhaden	Haul seines	Gill nets		Lines		Pound nets	Stop nets
			Drift	Stake	Trot with baits or snoods	Trot with hooks		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	1,102							
On boats and shore:								
Regular		275	66	126	968		1,524	2
Casual		294	460	189	475	1	514	2
Total	1,102	569	526	315	1,443	1	2,038	4
essels:								
Steam	26							
Net tonnage	2,937							
Motor	6							
Net tonnage	446							
Total vessels	32							
Total net tonnage	3,383							
oats:								
Motor		53	50	115	853		391	2
Other		154	264	68	484	1	455	
ccessory boats	96							
pparatus:								
Number	32	183	312	6,802	1,437	1	1,810	2
Length, yards	9,770	51,426						
Square yards			214,266	390,811				5,310
Hooks, baits, or snoods					1,075,280	100		

Item	Fyke nets	Dip nets	Otter trawls	Pots, eel	Scrapes	Dredges	
						Crab	Oyster
ishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			96			230	83
On boats and shore:							
Regular	53	971		8	4	89	247
Casual	93	1,420		3			
Total	146	2,391	96	11	4	319	330
essels:							
Motor			25			74	18
Net tonnage			361			712	274
oats:							
Motor	40	110		5		31	140
Other	56	1,813		6	4		
pparatus:							
Number	740	2,391	25	335	4	200	316
Yards at mouth			742		4	347	356

Fisheries of Virginia, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Tongs		Rakes		Picks	By hand		Total, exclusive of duplication
	Oyster	Other	Oyster	Other		Oysters	Other	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	6							1,487
On boats and shore:								
Regular	2,860	869	34	111	350	214	574	6,010
Casual	2,263	148		10		112	112	5,418
Total	5,129	1,017	34	121	350	326	686	12,915
Vessels:								
Steam								26
Net tonnage								2,937
Motor	2							115
Net tonnage	11							1,688
Total vessels	2							141
Total net tonnage	11							4,625
Boats:								
Motor	2,508	500		11	16	107	112	3,965
Other	684	171		101	296	156	261	3,603
Accessory boats								96
Apparatus, number	4,342	1,017	34	121	350			

CATCH: By gear

Species	Purse seines		Haul seines		Gill nets			
					Drift		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			191,400	$2,203	46,000	$883	7,500	$33
Bluefish			146,400	3,575	1,000	28		
Butterfish			2,400	48				
Carp			146,900	6,895	900	32	400	16
Catfish and bullheads			75,500	2,624	1,300	44		
Croaker			1,264,900	16,172	30,000	300	4,600	97
Drum, red or redfish			800	31				
Eels, common			31,600	5,800				
Flounders			6,300	216			2,500	100
Gizzard shad			35,100	443	20,000	50		
Hickory shad			2,300	78	200	2		
Menhaden	143,009,600	$596,380						
Minnows			56,600	3,081				
Mullet			47,100	2,023	1,000	18	12,700	395
Pigfish			1,000	10				
Pike or pickerel			1,200	120				
Shad			13,000	1,579	213,500	20,269	299,200	30,554
Spanish mackerel			400	40				
Spot			871,400	25,782	22,200	488	800	23
Squeteagues or "sea trout":								
Gray			156,800	5,315	1,000	30	2,200	127
Spotted			43,100	2,395	4,500	68		
Striped bass			43,500	3,048	26,900	2,884	34,600	3,624
Suckers			12,000	300				
Sunfish			24,000	600				
White perch			48,600	2,165	300	24	300	13
Yellow perch			16,400	1,047			200	12
Terrapin, diamond back			500	30				
Turtles, snapper			1,400	29				
Total	143,009,600	596,380	3,240,600	85,649	368,800	25,120	365,000	34,994

Fisheries of Virginia, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines				Pound nets		Stop nets	
	Trot with baits or snoods		Trot with hooks					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives					5,540,300	$35,354		
luefish					786,200	38,204		
onito					19,600	731		
utterfish					3,303,500	101,269		
abio or crab eater					25,300	1,063		
arp					46,500	1,462	7,100	$173
atfish and bullheads			1,000	$30	210,700	9,095	15,000	275
od					1,000	10		
roaker					15,700,100	166,118		
utlassfish					1,900	5		
rum:								
Black					37,500	750		
Red or redfish					44,000	793		
els, common					45,100	3,910		
lounders					472,200	18,515		
izzard shad					33,500	650		
arvestfish					262,800	11,099		
erring, sea					361,400	2,638		
ickory shad					91,400	1,827		
ing whiting or "kingfish"					59,700	3,076		
ackerel					14,900	1,170		
enhaden					869,200	4,033		
ullet					23,600	369		
igfish					7,300	136		
cup					32,900	790		
ea bass					11,100	180		
had					3,543,300	258,144		
panish mackerel					51,800	4,091		
pot					1,101,400	31,550		
queteagues or "sea trout":								
Gray					12,950,800	239,328		
Spotted					1,500	68		
triped bass					181,800	17,247		
turgeon					4,200	663		
himble-eyed mackerel					22,000	345		
hite perch					147,000	5,980		
hiting					3,000	38		
ellow perch					5,000	265		
rabs, hard	16,862,400	$286,607						
quid					84,700	2,958		
Total	16,862,400	286,607	1,000	30	46,103,200	963,924	22,100	448

Species	Fyke nets		Dip nets		Otter trawls		Pots, eel	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives	60,100	$478	900	$22				
luefish					2,900	$168		
utterfish	1,500	51			26,900	1,075		
arp	49,700	2,114	100	3				
atfish and bullheads	205,100	8,801	300	7			900	$63
od					500	15		
roaker	106,100	1,894			2,837,100	49,089		
rum, red or redfish					8,000	142		
els:								
Common	9,800	598					29,100	1,746
Other					2,100	39		
lounders	15,300	708			474,300	27,505		
izzard shad	6,800	41						
addock					500	4		
ake					21,400	284		
ickory shad			700	16				
ing whiting or "kingfish"					41,900	1,582		
ackerel					100	4		
ullet	600	18						
gfish					600	13		
ke or pickerel	3,000	287						
up					659,500	18,241		
a bass					115,900	4,739		
a robin					600	18		
ad	35,400	4,414						
arks					20,200	483		
ates					19,100	80		

Fisheries of Virginia, 1934—Continued

CATCH: BY GEAR—Continued

Species	Fyke nets		Dip nets		Otter trawls		Pots, eel	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Spot					45,400	$864		
Squeteagues or "sea trout", gray	19,200	$762			275,800	7,798		
Striped bass	22,300	2,176			700	82		
Sturgeon					4,100	416		
Suckers	1,000	20	300	$11				
Swellfish					1,700	59		
Tautog					500	7		
White perch	116,900	4,460			2,300	28		
Whiting					1,500	30		
Yellow perch	29,100	2,120						
Crabs:								
Hard			46,500	5,575	4,400	73		
Soft			1,359,700	95,596				
Lobsters					100	12		
Squid					8,100	221		
Turtles, snapper	2,000	80						
Total	683,900	29,022	1,408,500	101,230	4,567,200	113,071	30,000	$1,809

Species	Scrapes		Dredges				Tongs			
			Crab		Oyster		Oyster		Other	
	Lb.	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*
Crabs:										
Hard	5,900	$53	5,596,800	$171,736						
Soft	10,600	386								
Clams, hard, public									1,614,700	$149,818
Oysters:										
Market, public, spring							4,783,300	$291,642		
Market, public, fall							5,217,500	312,563		
Market, private, spring					2,451,800	$181,550	2,882,900	183,559		
Market, private, fall					3,851,800	276,983	2,369,300	141,808		
Scallops, sea			1,300	896						
Total	16,500	439	5,598,100	172,632	6,303,600	458,533	15,253,000	929,572	1,614,700	149,818

Species	Rakes				Picks		By hand			
	Oyster		Other				Oysters		Other	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard, public			168,000	$24,558	269,400	$40,416			557,000	$149,573
Mussels									23,400	540
Oysters:										
Market, private, spring	102,000	$1,700					54,100	$3,156		
Market, private, fall	102,000	3,700					54,100	3,157		
Terrapin, diamond back									22,700	840
Total	204,000	5,400	168,000	24,558	269,400	40,416	108,200	6,313	603,100	150,953

Fisheries of Virginia, 1934—Continued

OPERATING UNITS: BY COUNTIES

Item	Accomac	Arlington	Caroline	Charles City	Chesterfield	Dinwiddie	Elizabeth City	Essex
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	6						127	
On boats and shore:								
Regular	1,260	4		8		5	120	39
Casual	274	10	3	118	22	6		163
Total	1,540	14	3	126	22	11	247	202
Vessels:								
Motor	2						32	
Net tonnage	38						417	
Boats:								
Motor	626	7		9			32	37
Other	583	1	3	62	13	5	12	71
Apparatus:								
Haul seines	32			6	2	4		2
Length, yards	14,010			1,225	300	420		400
Gill nets:								
Drift		7	2	51	11	1		4
Square yards		16,450	800	18,335	3,360	520		1,310
Stake	2			643				
Square yards	720			19,640				
Lines, trot with baits or snoods	193						11	1
Baits or snoods	204,900						3,450	250
Pound nets	208						123	2
Fyke nets	4		1	32	2	10	2	2
Dip nets	182					4		
Otter trawls							11	
Yards at mouth							326	
Pots, eel				10				
Scrapes	4							
Yards at mouth	4							
Dredges:								
Crab	25						36	
Yards at mouth	28						71	
Oyster	274						6	
Yards at mouth	275						9	
Tongs:								
Oyster	875						14	137
Other	317						14	
Rakes:								
Oyster	34							
Other	87							
Picks	350							

Item	Fairfax	Gloucester	Henrico	Isle of Wight	James City	King and Queen	King George	King William
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		23		3				
On boats and shore:								
Regular	12	351		336	29		25	
Casual	46	40	87	34	70	87	102	93
Total	58	414	87	373	99	87	127	93
Vessels:								
Motor		8		1				
Net tonnage		79		5				
Boats:								
Motor	16	168		179	23	12	71	3
Other	15	52	44	77	32	52	57	50
Apparatus:								
Haul seines	3		7	8	6	2	4	4
Length, yards	700		196	1,600	1,200	400	950	390
Gill nets:								
Drift	14		35		32	28	18	38
Square yards	29,400		18,655		19,140	17,640	7,200	18,876
Stake		182		2,655	1,142	590	20	110
Square yards		4,540		143,370	61,530	17,890	22,240	2,406
Lines, trot with baits or snoods		52		109			33	2
Baits or snoods		28,200		109,000			22,350	600
Pound nets		97		7	11		39	
Fyke nets	236	5		70	44	2	22	18
Pots, eel			6					
Dredges:								
Crab		16						
Yards at mouth		30						
Oyster		2						
Yards at mouth		3						
Tongs:								
Oyster		179		338	6	6	32	17
Other		186			6			

Fisheries of Virginia, 1934—Continued

OPERATING UNITS: By counties—Continued

Item	Lancaster	Mathews	Middlesex	Nansemond	New Kent	Norfolk	Northampton	Northumberland
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	472	23	6	3		30		645
On boats and shore:								
Regular	458	375	492	47	2	118	447	919
Casual	868	381	873	141	65	106	219	796
Total	1,798	779	1,371	191	67	254	666	2,358
Vessels:								
Steam	8							18
Net tonnage	820							2,117
Motor	10	6	2	1		5		1
Net tonnage	397	87	21	6		103		117
Total vessels	18	6	2	1		5		19
Total net tonnage	1,217	87	21	6		103		2,234
Boats:								
Motor	578	268	611	76	3	50	256	381
Other	320	140	71	71	44	75	119	1,232
Accessory boats	39							57
Apparatus:								
Purse seines, menhaden	13							19
Length, yards	4,190							5,580
Haul seines		4	6		13	15	19	2
Length, yards		1,500	2,750		2,095	4,500	5,300	100
Gill nets:								
Drift					31			3
Square yards					24,800			2,880
Stake				650	1	112		
Square yards				32,500	200	3,360		
Lines, trot with baits or snoods	83	75	65	63		79	164	221
Baits or snoods	44,690	72,050	52,000	44,100		39,500	101,000	160,200
Trot with hooks					1			
Hooks					100			
Pound nets	198	402	14			20	155	378
Fyke nets				10	16		3	
Dip nets	650		65				100	1,310
Otter trawls		1				1		
Yards at mouth		30				30		
Dredges:								
Crab		10	2				21	
Yards at mouth		20	4				21	
Oyster	16	4	2			8		
Yards at mouth	42	6	3			12		
Tongs:								
Oyster	571	186	722	164	1		1	245
Other		12		162		47	32	
Picks							34	

Item	Prince George	Princess Anne	Prince William	Richmond	Stafford	Surry	Warwick	Westmoreland	York
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels							4		145
On boats and shore:									
Regular	6	102	12	52	38	17	196	156	364
Casual	38	19	38	138	23	10	153	393	2
Total	44	121	50	190	61	27	353	549	511
Vessels:									
Motor							1		46
Net tonnage							16		402
Boats:									
Motor	8	16	13	37	16	16	164	84	183
Other	20	47	12	89	20	7	5	183	19
Apparatus:									
Haul seines	6	6	7		9	4		4	8
Length, yards	3,350	1,800	1,270		1,550	1,000		700	3,720
Gill nets:									
Drift	12		6	13	1	2			3
Square yards	9,720		12,680	5 200	4,100	2,000			1,200
Stake	50		24		96	260	263	2	
Square yards	200		10,340		39,460	23,400	7,890	1,125	

Fisheries of Virginia, 1934—Continued

OPERATING UNITS: By counties—Continued

Item	Prince George	Princess Anne	Prince William	Richmond	Stafford	Surry	Warwick	Westmoreland	York
Apparatus—Continued.									
Lines, trot with baits or snoods	Number	Number	Number	Number	Number	Number	Number	Number	Number
Baits or snoods		33		10	6	2	17	150	68
Pound nets		8,250		2,850	3,040	1,500	8,500	106,350	62,500
Stop nets		28		25			22	56	25
Square yards	2								
Fyke nets	5,310								
Dip nets	46		143	1	42	15	3	11	
Otter trawls								80	
Yards at mouth							1		11
Pots, eel							30		326
Dredges:					319				
Crab									
Yards at mouth									90
Oyster									173
Yards at mouth									4
Tongs:									6
Oyster		15		126			307	160	240
Other		1							240

CATCH: By counties

Species	Accomac		Arlington		Caroline		Charles City	
	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
Alewives	798,400	$3,489					3,800	$38
Bluefish	22,600	1,136						
Bonito	17,400	620						
Butterfish	853,300	22,163						
Carp							19,400	631
Catfish and bullheads					200	$8	30,500	2,086
Croaker	1,690,900	26,974						
Drum:								
Black	37,500	750						
Red or redfish	41,200	752						
Eels, common	25,000	2,500			200	10	1,300	70
Flounders	78,000	2,557						
Harvestfish	6,400	256						
Hickory shad							500	20
King whiting or "kingfish"	6,500	275						
Mackerel	800	40						
Mullet	10,000	677					100	2
Pigfish	1,000	10						
Pike or pickerel							100	10
Scup	22,000	573						
Shad	155,400	10,949	13,200	$926	400	70	68,600	7,024
Spanish mackerel	9,400	629						
Spot	105,100	2,922						
Squeteagues or "sea trout":								
Gray	1,973,500	51,408						
Spotted	1,400	70						
Striped bass	1,500	130			200	35	3,100	306
Sturgeon	1,900	318						
Thimble-eyed mackerel	12,000	245						
White perch	500	16			500	25	900	50
Whiting	3,000	38						
Yellow perch					100	3	100	5
Crabs:								
Hard	3,064,900	64,572						
Soft	582,700	31,177						
Clams, hard, public	1,458,800	125,740						
Mussels	23,400	540						
Oysters:								
Market, public, spring	603,300	31,533						
Market, public, fall	713,700	37,222						
Market, private, spring	1,240,400	92,740						
Market, private, fall	1,120,500	87,750						
Squid	32,300	1,385						
Terrapin, diamond back	200	90						
Total	14,714,900	602,246	13,200	926	1,600	151	128,400	10,242

Fisheries of Virginia, 1934—Continued

CATCH: BY COUNTIES—Continued

Species	Chesterfield		Dinwiddie		Elizabeth City		Essex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	3,300	$56	44,900	$662	110,000	$1,373	6,000	$140
Bluefish					136,800	6,179		
Butterfish					180,200	8,708		
Cabio or crab eater					3,500	175		
Carp	3,000	148	4,600	193			2,600	99
Catfish and bullheads	2,300	81	5,800	194	6,200	310	5,100	194
Cod					200	6		
Croaker					5,374,300	88,787	13,000	350
Drum, red or redfish					6,300	118		
Eels:								
Common					200	16	400	16
Conger					1,900	37		
Flounders					382,400	21,049		
Gizzard shad					2,700	52	11,000	190
Haddock					500	4		
Hake					16,400	211		
Harvestfish					135,500	6,775		
Hickory shad	500	25	700	16	16,900	785	100	4
King whiting or "kingfish"					22,900	822		
Minnows			49,600	1,238				
Mullet	200	8			23,600	369		
Pigfish					200	5		
Scup					421,400	11,485		
Sea bass					81,000	2,801		
Sea robin					500	17		
Shad	4,000	381	3,000	250	281,000	27,800	2,700	555
Sharks					9,400	244		
Skates					9,300	76		
Spanish mackerel					18,800	1,504		
Spot					302,500	13,369	1,500	60
Squeteagues or "sea trout", gray					3,044,400	77,133		
Striped bass					27,000	2,180	900	85
Sturgeon					5,100	654		
Suckers			300	11				
White perch	200	10			31,200	609	4,800	306
Whiting					900	15		
Yellow perch					4,500	280	1,500	80
Crabs, hard					1,728,400	40,081	9,600	160
Lobsters					100	12		
Clams, hard, public					8,400	1,575		
Oysters:								
Market, public, spring					75,600	3,780	187,300	12,425
Market, public, fall					75,600	3,780	187,200	12,425
Market, private, spring					305,200	26,814	45,000	4,200
Market, private, fall					734,000	64,484	45,000	4,200
Scallops, sea					1,300	896		
Squid					4,200	110		
Terrapin, diamond back					22,500	750		
Total	13,500	709	108,900	2,564	13,613,100	416,230	523,700	35,489

Species	Fairfax		Gloucester		Henrico		Isle of Wight	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			18,000	$89	5,800	$53	38,000	$205
Bluefish			96,000	3,840				
Butterfish			271,500	5,430			3,700	118
Cabio or crab eater			800	48				
Carp	7,900	$316	300	15	5,100	255	7,800	242
Catfish and bullheads	93,900	3,756	700	22	4,200	184	11,000	225
Croaker			1,340,500	16,749			54,100	1,069
Eels, common			700	49	400	40	1,400	84
Flounders			17,000	675			6,300	242
Gizzard shad	300	3					5,400	27
Harvestfish			41,800	2,090				
King whiting or "kingfish"			20,300	406				
Menhaden			69,000	230				
Minnows					200	135		
Mullet			700	21			27,400	736
Shad	51,100	3,575	158,100	16,090	13,500	2,160	79,700	12,953
Spanish mackerel			1,500	150				
Spot			36,000	1,082				
Squeteagues or "sea trout":								
Gray			1,336,300	20,062			9,600	480
Spotted			1,900	60				
Striped bass	6,000	600	500	40			7,300	864

Fisheries of Virginia, 1934—Continued

CATCH: BY COUNTIES—Continued

Species	Fairfax		Gloucester		Henrico		Isle of Wight	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
hite perch	51,100	$1,536					35,000	$1,400
llow perch	15,400	1,506						
abs, hard			2,342,000	$47,102			784,800	11,445
ams, hard, public			212,600	31,432				
sters:								
Market, public, spring			441,200	29,412			245,000	13,700
Market, public, fall			408,400	27,224			254,000	15,210
Market, private, spring			30,000	2,500			3,000	180
Market, private, fall			30,000	2,500			5,000	300
Total	225,700	11,292	6,874,900	207,318	29,200	$2,827	1,578,500	59,480

Species	James City		King and Queen		King George		King William	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives	18,700	$266	800	$16	26,700	$287	25,100	$253
itterfish					4,300	93		
rp	41,300	1,901	200	8	4,500	102	500	20
tfish and bullheads	13,800	407	1,200	36	170,100	8,335	1,100	30
oaker	10,500	246	200	3	200	2	500	5
ls, common					8,800	352		
ounders	1,100	55						
zzard shad					9,200	162		
ckory shad			1,000	30	100	5	300	3
ullet			1,500	51			700	11
ke or pickerel					400	35		
ad	57,500	6,900	14,100	1,745	38,100	3,500	9,200	1,076
ueteagues or "sea trout", gray	2,700	162			99,000	2,970		
riped bass	14,300	1,494	700	72	56,100	5,642	700	88
hite perch	8,700	348	700	28	60,000	3,028	300	12
llow perch					3,100	103		
abs, hard					457,500	10,813	10,000	200
ams, hard, public	7,200	1,350						
sters:								
Market, public, spring	7,300	291	21,600	360	44,200	1,657	3,600	60
Market, public, fall	14,600	782			56,800	2,129		
Market, private, spring							99,600	1,660
Market, private, fall							99,600	1,660
rrapin, diamond back	500	30						
rtles, snapper	1,400	29						
Total	199,600	14,261	42,000	2,349	1,039,100	39,215	251,200	5,078

Species	Lancaster		Mathews		Middlesex		Nansemond	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives	134,300	$1,343	543,400	$2,971	7,000	$60	5,000	$50
efish	900	36	483,500	21,684	12,000	730		
tterfish	6,200	186	671,400	23,474				
bio or crab eater			21,000	840				
rp					4,000	120		
tfish and bullheads					200	10		
oaker	745,000	14,900	4,836,000	25,980	190,000	2,870	12,000	358
ls, common							500	30
ounders	900	51	120,300	3,811			10,000	500
ke			3,700	55				
rvestfish			10,500	263				
ckory shad	600	18	15,200	312				
g whiting or "king-sh"			400	21				
nhaden	54,808,600	241,261	120,000	300				
fish			6,300	126				
p			87,200	2,401				
bass			17,500	684				
d	44,900	4,490	2,064,700	118,930	2,000	160	8,800	1,316
nish mackerel			400	40				
t	15,300	459	597,000	13,435	155,500	2,550		
ueteagues or "sea rout":								
Gray	46,100	1,383	2,559,300	39,629	38,500	1,230	700	52
Spotted			5,100	255				
ped bass	6,000	1,075	22,600	855	13,000	1,030	1,000	100
ite perch			4,400	132			2,500	50

Fisheries of Virginia, 1934—Continued

CATCH: BY COUNTIES—Continued

Species	Lancaster		Mathews		Middlesex		Nansemond	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Whiting			300	$6			5,000	$250
Yellow perch								
Crabs:								
Hard	968,500	$32,450	1,157,500	20,270	706,800	$9,680	544,000	9,072
Soft	196,700	18,200			77,700	7,800		
Clams, hard, public			8,600	1,620			47,000	11,740
Oysters:								
Market, public, spring	984,800	65,651	111,600	7,001	954,500	63,946	37,800	2,205
Market, public, fall	1,094,000	69,289	237,500	14,054	954,500	63,946	289,800	16,905
Market, private, spring	1,626,000	108,520	92,700	6,448	382,000	27,800	27,000	1,575
Market, private, fall	595,600	39,023	136,000	9,083	364,000	26,000	81,000	4,725
Total	61,274,400	598,335	13,934,100	314,680	3,861,700	207,932	1,072,100	48,928

Species	New Kent		Norfolk		Northampton		Northumberland	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	74,000	$1,068	80,500	$402			2,858,500	$18,550
Bluefish			10,000	500	28,100	$1,863	59,900	2,392
Bonito					2,200	111		
Butterfish			300,200	9,006	824,300	25,076	17,300	519
Carp	11,000	440						
Catfish and bullheads	11,800	331						
Cod					1,000	10		
Croaker	34,500	345	1,420,000	10,669	611,600	6,904	477,700	6,913
Cutlassfish					1,900	5		
Drum, red or redfish			800	16			1,900	38
Eels, common	100	3			41,000	6,850		
Flounders			50,100	2,004	31,600	1,496	4,500	147
Gizzard shad	30,100	166					600	3
Harvestfish			28,600	715				
Herring, sea					361,400	2,638		
Hickory shad	200	2					14,900	183
King whiting or "kingfish"			2,500	125	5,400	270		
Mackerel					14,100	1,130		
Menhaden							88,881,200	358,622
Minnows	6,800	1,708						
Mullet			6,300	126	12,000	690		
Scup					10,500	209		
Sea bass					1,500	77		
Sea robin			100	1				
Shad	15,000	1,817	154,400	15,440	6,600	518	451,700	40,649
Sharks			4,300	63				
Spanish mackerel			17,800	1,424	2,500	204		
Spot			296,400	11,158	21,300	593	7,100	186
Squeteagues or "sea trout":								
Gray	9,000	270	391,700	5,966	2,267,800	21,605	217,200	3,795
Spotted			9,000	450			5,000	78
Striped bass	800	64	2,100	168	600	120	37,800	2,978
Thimble-eyed mackerel					10,000	100		
White perch	5,100	287					300	3
Yellow perch	500	39						
Crabs:								
Hard			995,400	16,590	1,710,000	40,000	2,936,800	29,368
Soft					143,100	8,100	352,200	29,208
Clams, hard, public			56,400	1,763	499,500	139,870		
Oysters:								
Market, public, spring	1,300	108					188,800	9,088
Market, public, fall	1,300	108					273,400	12,615
Market, private, spring			1,062,500	64,099	56,100	3,296	217,700	11,133
Market, private, fall			2,129,000	128,527	56,100	3,297	386,900	18,183
Squid			800	19	52,400	1,573		
Turtles, snapper	2,000	80						
Total	203,500	6,836	7,018,900	269,231	6,772,600	266,605	97,391,400	544,64

Fisheries of Virginia, 1934—Continued

CATCH: BY COUNTIES—Continued

Species	Prince George		Princess Anne		Prince William		Richmond	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives	6,900	$97	104,000	$710	8,200	$41	41,800	$850
luefish			14,000	1,400				
utterfish			168,000	6,720			29,000	580
arp	28,700	1,033	12,000	600	17,500	875	38,200	1,146
atfish and bullheads	43,000	943	2,800	84	39,900	1,673	34,200	684
roaker			1,680,000	15,550			16,000	480
rum, red or redfish			1,000	20				
els, common	1,200	58	3,000	90			700	36
lounders			70,000	2,800				
izzard shad					14,000	140	22,000	440
arvestfish			40,000	1,000				
ickory shad							2,800	112
ing whiting or "kingfish"			25,000	2,000				
ullet	600	36			1,400	56		
ike or pickerel	200	12			1,400	140		
had	16,300	1,498	177,100	17,710	31,700	2,203	12,400	2,480
panish mackerel			1,800	180				
ot			143,600	5,766			1,000	60
ueteagues or "sea trout":								
Gray			606,000	9,750				
Spotted			3,600	180				
riped bass	900	76			27,200	3,086	7,800	780
ickers			12,000	300				
nfish			24,000	600				
hite perch	1,200	57	10,200	204	21,000	1,050	18,500	848
ellow perch	800	36			6,300	315	200	5
rabs, hard			416,800	6,930			85,800	1,430
lams, hard, public			800	200				
ysters:								
Market, public, spring							151,200	12,930
Market, public, fall							151,200	12,930
Market, private, spring			28,000	1,600			115,500	8,250
Market, private, fall			56,000	3,200			115,500	8,250
Total	99,800	3,846	3,599,700	77,594	168,600	9,579	843,800	52,291

Species	Stafford		Surry		Warwick		Westmoreland		York	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives			8,400	$126	800	$8	840,000	$5,600	33,900	$170
luefish									72,700	2,215
utterfish					4,000	111			5,900	259
arp	7,300	$418	28,900	1,726			6,800	407		
atfish and bullheads	11,000	690	6,500	195			14,300	461		
od					100	7			200	2
roaker					434,500	5,334	26,300	395	975,000	8,787
rum, red or redfish					500	5			1,100	17
els:										
Common	28,600	1,716	1,000	80			1,100	54		
Conger					100	1			100	1
lounders					41,900	2,373			156,500	9,284
izzard shad							100	1		
ake					1,200	15			100	3
ickory shad					600	6	40,200	402		
ing whiting or "kingfish"					2,200	65			16,400	674
ackerel									100	4
ullet									500	40
gfish					300	4			1,100	14
ke or pickerel	2,000	200					100	10		
up					108,500	3,427			42,800	936
a bass					26,500	1,334			500	23
had	54,500	3,818	6,100	948	61,600	2,904	28,500	2,275	18,500	1,850
harks					2,400	58			4,100	118
rates					800	4				
ot					3,900	114			355,000	6,953
ueteagues or "sea trout":										
Gray					39,000	703	392,500	11,775	372,500	4,987
Spotted									24,000	1,440
riped bass	3,600	396	3,800	304	3,600	272	60,700	6,221		
urgeon					1,100	88			200	19
ckers	1,000	20								
ellfish					100	6			1,600	53
autog					100	1			400	6

Fisheries of Virginia, 1934—Continued

CATCH: By counties—Continued

Species	Stafford		Surry		Warwick		Westmoreland		York	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
White perch	12,500	$750	1,500	$60	6,100	$164	37,600	$1,688	600	$9
Whiting									300	9
Yellow perch	12,600	804					600	18		
Crabs:										
Hard	14,900	576	600	8	72,700	914	606,600	9,288	3,902,400	113,095
Soft							17,900	1,500		
Clams, hard, public									309,800	49,080
Oysters:										
Market, public, spring					96,000	3,520	60,200	3,611	568,000	30,364
Market, public, fall					192,000	7,040	6,000	352	307,500	16,554
Market, private, spring					12,600	462	1,500	88	146,000	8,600
Market, private, fall					25,200	924	240,700	14,442	157,000	9,100
Squid					1,600	45			1,500	47
Total	148,000	9,388	56,800	3,447	1,140,000	29,909	2,381,700	58,588	7,476,300	264,713

SEED OYSTER FISHERY: By gear

Item	Dredges		Tongs		Total, exclusive of duplication	
OPERATING UNITS						
Fishermen:	*Number*		*Number*		*Number*	
On vessels	16		8		24	
On boats and shore:						
Regular			1,005		1,005	
Casual			120		120	
Total	16		1,133		1,149	
Vessels:						
Motor	4		3		7	
Net tonnage	48		21		69	
Boats:						
Motor			558		558	
Other			36		36	
Apparatus:						
Number	8		1,131			
Yards at mouth	16					
CATCH						
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring			1,153,083	$173,664	1,153,083	$173,664
Seed, public, fall			864,342	130,348	864,342	130,348
Seed, private, spring	32,868	$1,643			32,868	1,643
Seed, private, fall	32,868	1,644			32,868	1,644
Total	65,736	3,287	2,017,425	304,012	2,083,161	307,299

Fisheries of Virginia, 1934—Continued

SEED OYSTER FISHERY: BY COUNTIES

Item	Accomac		Elizabeth City		Gloucester		Isle of Wight	
OPERATING UNITS								
Fishermen:	*Number*		*Number*		*Number*		*Number*	
On vessels				16				3
On boats and shore:								
Regular		77		14		124		336
Total		77		30		124		339
Vessels:								
Motor				4				1
Net tonnage				48				5
Boats:								
Motor		25		10		85		163
Other								30
Apparatus:								
Tongs		77		14		124		338
Dredges				8				
Yards at mouth				16				
CATCH								
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	5,400	$1,508	33,600	$5,040	213,750	$32,064	506,500	$75,975
Seed, public, fall	5,400	1,507	25,200	3,780	122,250	18,336	505,500	75,825
Seed, private, spring			32,868	1,643				
Seed, private, fall			32,868	1,644				
Total	10,800	3,015	124,536	12,107	336,000	50,400	1,012,000	151,800

Item	James City		Mathews		Nansemond		Norfolk	
OPERATING UNITS								
Fishermen:	*Number*		*Number*		*Number*		*Number*	
On vessels						3		
On boats and shore:								
Regular		6		47				30
Casual								16
Total		6		47		3		46
Vessels:								
Motor						1		
Net tonnage						6		
Boats:								
Motor		2		24				10
Other								6
Apparatus, tongs		6		47		2		46
CATCH								
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public spring	5,550	$834	59,533	$8,930	1,250	$188	15,000	$2,250
Seed, public, fall	2,775	416	29,767	4,467	1,250	187	15,000	2,250
Total	8,325	1,250	89,300	13,397	2,500	375	30,000	4,500

Item	Surry		Warwick		York	
OPERATING UNITS						
Fishermen:	*Number*		*Number*		*Number*	
On vessels		2				
On boats and shore:						
Regular				131		240
Casual		4		100		
Total		6		231		240
Vessels:						
Motor		1				
Net tonnage		10				
Boats, motor		2		115		122
Apparatus, tongs		6		231		240
CATCH						
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	6,000	$900	84,500	$12,675	222,000	$33,300
Seed, public, fall	4,000	600	42,200	6,330	111,000	16,650
Total	10,000	1,500	126,700	19,005	333,000	49,950

NOTE.—Of the total number of persons fishing for seed oysters, 1,005 are duplicated among those fishing for market oysters or other species. Similarly, the following craft and gear are duplicated: 6 vessels, 461 motorboats, 36 other boats, 8 dredges, and 987 tongs.

SHAD AND ALEWIFE FISHERIES OF THE POTOMAC RIVER

The catch of shad in the Potomac River in 1934 amounted to 152,876 in number, 567,100 pounds in weight, and their total value to the fishermen was $47,504. The catch of alewives for the same season amounted to 5,070,840 in number, with a total weight of 2,028,400 pounds, and a value to the fishermen of $16,256. These figures show a decrease of 69 percent in the weight and 68 percent in the value of shad as compared with 1933, and a decrease of 71 percent in weight and 32 percent in the value of alewives.

Approximately 64 percent of the shad, in weight, were taken with pound nets, and 36 percent, with gill nets. More than 99½ percent of the alewives were taken with pound nets, only a small quantity being taken with gill nets.

Statistics of the catch of shad and alewives in Potomac River are also included in the catch data for Maryland and Virginia which are published elsewhere in this report.

Shad and alewife fisheries of the Potomac River, 1934

Item	Maryland			Virginia			Total		
	Number	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
Fishermen on boats and shore:									
Regular	34			296			330		
Casual	113			121			234		
Total	147			417			564		
Boats:									
Motor	46			145			191		
Other	45			93			138		
Apparatus:									
Pound nets	46			279			325		
Gill nets	1,045			774			1,819		
Square yards	196,615			182,030			378,645		
Shad caught:									
With pound nets	3,065	10,400	$1,058	94,034	352,000	$31,331	97,099	362,400	$32,389
With gill nets	6,975	25,300	2,570	48,802	179,400	12,545	55,777	204,700	15,115
Total	10,040	35,700	3,628	142,836	531,400	43,876	152,876	567,100	47,504
Alewives caught:									
With pound nets	52,000	20,800	470	4,995,400	1,998,200	15,734	5,047,400	2,019,000	16,204
With gill nets				23,440	9,400	52	23,440	9,400	52
Total	52,000	20,800	470	5,018,840	2,007,600	15,786	5,070,840	2,028,400	16,256

TRADE IN FISHERY PRODUCTS IN WASHINGTON, D. C.[9]

The municipal fish wharf and market in Washington, D. C., is located in the southwestern part of the city on an arm of the Potomac River. At the present time 17 firms have stalls in this market, 4 have stalls in the new Center Market, located at Fifth and K Streets NW., and 4 are scattered in other parts of the city. Altogether there are 25 firms which employ 132 persons who received $137,185 in salaries and wages during 1934. Of the total employees 100 were regularly employed. These firms conduct mainly a wholesale business although some retail trade is carried on.

The facilities for handling fish and oysters from boats and vessels that may land at the wharf are good, but only a comparatively small

[9] Trade of fishery products handled at the municipal wharf, Washington, D. C., are reported to the Bureau by agents of the Health Department, District of Columbia.

uantity are brought into the city by this method. In the fall and inter, considerable quantities of shell oysters are landed, but most the oysters handled in Washington are brought in already shucked om Maryland and Virginia, by trucks and other transportation cilities.

During the year 1934 the receipts of fresh and frozen fishery prodcts as received at the municipal fish wharf amounted to 9,933,552 ounds. This is an increase of 4 percent as compared with 1933 and increase of 1 percent as compared with the 5-year average.

During 1934 three firms in Washington, D. C., smoked fishery roducts, amounting to 187,100 pounds, valued at $20,205. Of this nount, 153,500 pounds, valued at $11,160, consisted of herring smoked bloaters; 29,500 pounds, valued at $8,310, were whitefish; while the mainder or 4,100 pounds, valued at $735, consisted of alewives or river herring", eels, and haddock.

74142—36——9

Fishery products received at municipal fish wharf and market, Washington, D. C., 1934

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Alewives (river herring)	8,000	6,300	56,050	239,500	209,950	10,200							530,000
Bluefish	4,600	1,000	3,600	14,200	32,500	8,300	6,800	13,400	46,400	77,600	24,700	4,200	237,300
Butterfish	3,800	16,000	2,900	7,200	37,400	74,300	69,900	58,400	23,200	18,000	22,000	6,900	343,000
Carp	5,700	2,300	8,500	23,600	11,900	5,600	1,200	6,500	14,700	11,000	6,400	7,600	110,000
Catfish	2,000	200	12,300	36,900	10,400	10,400	1,400	2,900	7,580	12,300	16,100	5,000	117,480
Cod	1,000	800	1,200	3,200	3,000	1,000	200	500	200	100	900	1,700	13,800
Croaker	117,300	52,200	44,500	238,800	436,000	283,900	201,600	337,200	152,400	182,800	171,100	227,600	2,445,400
Drum, red or redfish	1,100	4,400	1,900	700	3,100	1,700			1,600	2,000	4,200	9,500	30,200
Eels	300	100	100	1,500	200			100	1,100	2,700	850	200	7,150
Flounders	36,000	35,700	30,800	23,100	34,500	15,900	22,400	19,965	13,170	26,110	33,755	2,300	314,700
Gizzard shad	14,300	2,400	38,600	10,400	800						7,150	2,200	75,850
Haddock	27,405	22,185	55,170	42,680	36,825	16,125	17,520	22,650	19,000	22,110	18,640	25,460	325,770
Hake	600			800									1,400
Halibut	5,200	3,300	10,400	12,200	5,000	4,000	3,600	5,000	5,000	6,000	7,603	2,200	69,503
Hickory shad or "jacks"	2,300	900	1,500	1,100									5,800
Hogfish									200				200
Kingfish or "king mackerel"	300		1,000	2,400	2,200				600	500	1,200	600	8,800
Mackerel	26,100	13,900	25,100	17,600	21,600	16,600	15,200	14,600	19,400	13,200	10,200	19,100	212,600
Mullet	2,600	400	1,200						1,800	12,600	7,200	13,200	39,000
Perch	6,900	1,900	29,800	43,300	8,800	5,200	400	700	4,600	7,800	10,500	6,600	126,500
Pike or pickerel	100		1,300	400		100	400		300	800	400	200	4,000
Pollock	400	200	3,000		100						300		4,000
Pompano					100						100		200
Salmon	4,400	2,900	9,501	5,200	1,000	1,600	3,600	7,600	7,200	11,500	8,300	2,400	65,201
Scup or porgy	13,400	28,600	43,700	25,400	600	5,700	3,300	1,800				700	123,200
Sea bass	63,000	50,700	82,500	68,600	16,800	12,600	35,300	15,600	1,800	800	11,800	2,900	362,400
Shad	16,100	12,200	64,100	137,500	119,250	5,400							354,550
Sheepshead										300			300
Skates				400									400
Smelt	810	1,245	1,520	1,645						1,125		1,000	7,345
Snapper, red	300	400	200	830	1,075	40			50	200	200	1,100	4,395
Spot		2,200	3,200		1,800	9,800	11,100	22,800	68,200	136,200	40,100	300	295,700
Squeteagues or "sea trout"	87,200	62,100	62,800	45,000	193,500	189,200	193,100	257,200	246,200	266,500	206,300	113,300	1,922,400
Striped bass	2,400	4,800	12,300	38,700	15,300	10,900	2,400	1,700	8,040	17,050	14,600	5,700	133,890
Sturgeon	50	230			690	83				150		653	1,856
Swordfish	275	225	1,306	810	468	150	643	590	550	575	600	100	6,292
Tilefish	600	100	300	400	300		100		50		200	100	2,150
Tuna						1,700	800						2,500
Whitefish			200			300	400		750	200			1,850
Whiting			200		2,000						200	3,200	5,600
Yellowtail						200						400	600

Soft				400	3,300	25,700	58,500	105,900	44,100	14,600			252,500
Meat				9,225	6,570	18,630	14,715	16,650	7,110	3,015	540		76,455
Sea crawfish or "spiny lobster":													
Alive	3,485	2,700	2,710	2,580	18,265	15,445	28,065	41,350	22,200	8,680	3,490	3,000	151,970
Meat	25	100	300	150		50	25			25	25	25	725
Lobsters:	25	30	135	300	75	75	10			5	135	125	915
Alive	578	275	150	300	850	1,075	120	1,850	775	1,500	900	650	9,023
Meat	100	60	75	125	75	35	10	400				25	905
Shrimp	6,932	17,325	10,680	10,738	19,150	19,700	19,000	12,500	10,750	12,385	10,025	9,860	159,045
Squid	200	400	400		200	300	200			400		500	2,600
Clams:													
Hard	4,896	3,968	5,216	3,424	7,584	5,664	5,760	6,432	8,704	6,496	4,928	3,840	[1] 66,912
Soft										18			18
Oysters:													
Meats in the shell	25,585	10,451	11,599	9,597	546				24,500	68,733	66,241	31,311	[2] 248,563
Fresh shucked	69,548	54,898	87,106	26,705	1,461				62,038	141,601	97,230	80,605	[3] 621,192
Scallops	1,712	1,008	1,680	2,704	5,072	2,400	3,520	792	800	3,680	1,560	1,176	[4] 26,104
Frogs				95	264	88	15	9		19		80	570
Terrapin	38		100										138
Turtles:													
Sea					990	1,125							2,115
Soft					20								20
Other					40					460			500
Total	567,664	421,100	730,898	1,115,408	1,271,620	781,285	721,303	975,088	828,067	1,091,837	810,672	618,610	9,933,552

[1] 8,364 bushels. [2] 35,509 bushels. [3] 70,993 gallons. [4] 4,351 bushels.

NOTE.—The hard clams have been converted to pounds on the basis of 8 pounds of meats to the bushel, the oysters on the basis of 7 pounds of meats to the bushel, and 8¾ pounds to the gallon, and the scallops on the basis of 6 pounds of meats to the bushel.

FISHERIES OF THE SOUTH ATLANTIC AND GULF STATES

(South Atlantic, Area XXIV; Gulf, Area XXV) [10]

The yield of the commercial fisheries of the marine areas of the South Atlantic and Gulf States (North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas) during 1934 amounted to 447,913,900 pounds, valued at $9,993,660, to the fishermen, representing an increase of 49 percent in volume and 55 percent in value as compared with the catch in 1932, the most recent year for which catch statistics are available. These fisheries gave employment to 24,898 fishermen as compared with 21,560 in 1932.

There were 591 fishery wholesale and manufacturing establishments in these States in 1934, as compared with 585 in 1931, when the most recent previous survey of these establishments was made. In 1934, these establishments employed 14,354 persons, paid $2,873,812 in salaries and wages and produced manufactured products (canned, cured, packaged, and byproducts), valued at $9,906,595. In 1931, the wholesale and manufacturing firms employed 13,635 persons, paid $2,821,543 in salaries and wages and produced manufactured products valued at $8,374,588.

Fisheries of the South Atlantic and Gulf States, 1934

SUMMARY OF CATCH

Product	North Carolina		South Carolina		Georgia	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	154, 567, 900	$1, 395, 596	1, 168, 400	$63, 063	19, 233, 900	$116, 490
Shellfish, etc	8, 894, 000	276, 629	4, 722, 800	162, 228	7, 907, 000	243, 020
Total	163, 461, 900	1, 672, 225	5, 891, 200	225, 291	27, 140, 900	359, 510

Product	Florida		Alabama		Mississippi	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	97, 899, 100	$2, 117, 934	2, 755, 200	$110, 046	1, 312, 400	$42, 155
Shellfish, etc	20, 901, 600	1, 516, 788	5, 208, 800	143, 360	20, 840, 600	610, 146
Total	118, 800, 700	3, 634, 722	7, 964, 000	253, 406	22, 153, 000	652, 301

Product	Louisiana		Texas		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	3, 138, 000	$178, 297	7, 940, 500	$410, 680	288, 015, 400	$4, 434, 261
Shellfish, etc	73, 495, 200	2, 106, 266	17, 928, 500	500, 962	159, 898, 500	5, 559, 399
Total	76, 633, 200	2, 284, 563	25, 869, 000	911, 642	447, 913, 900	9, 993, 660

OPERATING UNITS: BY STATES

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	723	20	139	870	122	557	369	114	2, 914
On boats and shore:									
Regular	2, 620	596	381	5, 461	436	917	4, 529	1, 068	16, 008
Casual	2, 012	877	468	1, 177	125	232	626	459	5, 976
Total	5, 355	1, 493	988	7, 508	683	1, 706	5, 524	1, 641	24, 898

[10] These are the numbers given to these areas by the North American Council on Fishery Investigations. The catch in the Mississippi River and tributaries is not included in this section. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the South Atlantic and Gulf States, 1934—Continued

OPERATING UNITS: BY STATES—Continued

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
essels:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Motor	93	5	46	202	34	144	151	35	710
Net tonnage	1,340	67	421	3,316	339	1,905	1,056	345	8,789
Sail	30								30
Net tonnage	298								298
Total vessels	123	5	46	202	34	144	151	35	740
Total net tonnage	1,638	67	421	3,316	339	1,905	1,056	345	9,087
oats:									
Motor	1,344	94	122	2,064	184	341	1 698	462	6,309
Other	1,829	762	423	2,966	160	361	1,243	345	8,089
ccessory boats	112		6	18			62		198
pparatus:									
Purse seines:									
Menhaden	31		2	5					38
Length, yards	7,940		600	1,475					10,015
Other	1			1					2
Length, yards	175			350					525
Haul seines:									
Common	412	27	8	116	8	1	95	23	690
Length, yards	53,160	3,880	800	39,455	4,350	300	21,404	2,500	125,849
Long	87			75					162
Length, yards	86,475			50,300					136,775
Gill nets:									
Anchor	1,840	190	47	26					2,103
Square yards	1,128,700	129,296	11,375	38,600					1,307,971
Drift	220	285	165	105					775
Square yards	469,170	217,120	103,540	185,790					975,620
Runaround	159	16	12	2,259				84	2,530
Square yards	66,730	4,050	3,570	1,820,749				18,344	1,913,443
Stake	4,931		5	6	16			215	5,173
Square yards	388,205		1,800	2,340	2,450			53,662	448,457
Trammel nets				181	57	27	75	85	425
Square yards				129,839	18,745	7,370	13,599	40,240	209,793
Lines:									
Hand	81	175	39	1,549	126	159	242	356	2,727
Hooks	172	495	39	2,155	204	178	253	356	3,852
Troll	45			1,029				17	1,091
Hooks	45			1,137				17	1,199
Trot with baits or snoods	423	6	32	30	38	99	380	36	1,044
Baits or snoods	342,800	4,500	10,080	6,740	7,640	19,260	83,035	13,200	487,255
Trot with hooks	50		40	106	112		4	68	380
Hooks	6,200		2,840	42,360	11,550		1,800	52,150	116,900
Pound nets	1,522			17					1,539
Weirs	12								12
Wheels	33								33
Stop nets				9					9
Square yards				15,670					15,670
Fyke nets	480				10				490
Dip nets:									
Common	480			57			159	6	702
Drop				24		120	13,369		13,513
Cast nets			10	18		64	178	1	271
Otter trawls:									
Fish				2					2
Yards at mouth				63					63
Shrimp	130	50	149	264	160	366	1,611	319	3,049
Yards at mouth	2,634	1,009	3,248	5,324	2,067	4,658	19,354	5,066	43,360
Brush traps							25,250		25,250
Pots:									
Crab			48	1,648					1,696
Eel	750			40					790
Fish	730		50	3,020	78				3,878
Sea crawfish				958					958
Spears	65	20		31	60	72		105	353
Dredges:									
Clam				1					1
Oyster	143		3	4	9	398	57	48	662
Yards at mouth	147		3	4	9	398	58	53	672
Scallops				6					6
Yards at mouth				11					11
Tongs, oyster	249	11	90	391	106	224	758	196	2,025
Rakes, other than for oysters	431	2		2					435
Forks				52					52
Grabs		317	20	28					365
Coquina scoops				1					1
Hooks, sponge				241					241
Diving outfits				53					53

Fisheries of the South Atlantic and Gulf States, 1934—Continued

CATCH: BY STATES

Species	North Carolina		South Carolina		Georgia	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	14,897,000	$96,901				
Black bass	1,500	75				
Bluefish	1,766,500	63,515	3,000	$180		
Bowfin	600	6				
Butterfish	43,500	745				
Carp	108,600	4,316				
Catfish and bullheads	162,600	3,173			52,500	$3,150
Cero	4,400	220				
Croaker	7,682,800	91,058			7,000	280
Drum, red or redfish	132,500	2,750	3,500	105	2,500	125
Eels	44,300	2,043				
Flounders	987,500	42,150	31,500	1,775	3,300	96
Gizzard shad	24,000	230				
Grunts			9,100	273		
Harvestfish or "starfish"	820,000	12,325				
Hickory shad	99,700	4,634	4,500	450	10,500	1,042
King whiting or "kingfish"	302,000	7,240	14,000	420	12,000	380
Menhaden	106,651,100	355,503			18,751,500	63,859
Mullet	3,889,300	105,289	700,000	19,000	59,000	2,600
Pigfish	92,000	1,130				
Pike or pickerel	1,200	66				
Pinfish or sailors choice	180,000	900				
Pompano	400	60				
Sea bass	75,400	3,045	106,200	4,560	23,000	690
Shad	1,274,000	193,187	208,600	31,290	232,000	38,400
Sharks			12,000	120		
Sheepshead	3,700	80				
Spadefish	6,000	150				
Spanish mackerel	47,700	2,358				
Spot	4,788,000	73,035	10,500	315	13,000	460
Squeteagues or "sea trout":						
Gray	7,729,400	180,588	2,000	130		
Spotted	1,849,100	96,165	13,500	945	56,000	4,480
Striped bass	362,000	35,675				
Sturgeon	1,600	160	50,000	3,500	11,600	928
Sunfish	100	1				
White perch	522,200	22,343				
Yellow perch	17,200	480				
Total	154,567,900	1,395,596	1,168,400	63,063	19,233,900	116,490
SHELLFISH, ETC.						
Crabs:						
Hard [1]	4,543,600	67,238	8,000	160	483,500	7,252
Soft	251,400	36,210				
Shrimp	2,563,900	80,367	1,801,400	54,042	6,842,900	203,127
Clams, hard, public [2]	338,000	33,647	47,000	5,862		
Octopus			1,500	90		
Oysters: [3]						
Market, public, spring	436,700	18,117	1,329,100	41,347		
Market, public, fall	699,300	33,125	471,500	17,684		
Market, private, spring	21,700	1,550	614,600	22,169	327,600	16,588
Market, private, fall	3,000	300	446,700	20,574	241,100	14,773
Scallops, bay	36,000	6,000				
Terrapin, diamond back	400	75	3,000	300	11,900	1,280
Total	8,894,000	276,629	4,722,800	162,228	7,907,000	243,020
Grand total	163,461,900	1,672,225	5,891,200	225,291	27,140,900	359,510

Species	Florida		Alabama		Mississippi	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	214,900	$1,055				
Amberjack	4,000	80				
Black bass	422,900	25,195				
Bluefish	1,933,900	100,675	28,600	$754		
Blue runner or hardtail	181,100	3,074	2,900	58		
Buffalofish			18,600	744		
Cabio or crab eater	7,400	181				
Catfish and bullheads	2,854,200	93,477	120,600	7,636	30,300	$606
Cigarfish	4,500	90				
Crappie	462,300	11,956				
Crevalle	111,000	1,565	2,600	58		
Croaker	52,400	1,194	21,200	386	13,600	339
Dolphin	8,000	240				
Drum:						
Black	100,100	2,165	700	20	3,800	59
Red or redfish	1,016,900	24,277	64,700	2,442	73,000	2,888
Eels	18,400	553				

See footnotes at end of table.

Fisheries of the South Atlantic and Gulf States, 1934—Continued

CATCH: BY STATES—Continued

Species	Florida		Alabama		Mississippi	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ounders	74,800	$3,142	35,900	$2,718	42,000	$2,410
oupers	3,341,400	79,490	151,200	3,356	55,000	1,250
unts	40,300	1,138				
ckory shad	42,900	352				
gfish	6,000	180				
wfish	13,400	408				
ngfish or "king mackerel"	2,638,100	116,097				
ng whiting or "kingfish"	324,600	7,844	4,800	90	3,600	89
ackerel	200	9				
enhaden	38,983,400	121,643				
ojarro	19,100	391				
ullet	23,966,300	641,127	1,168,200	28,387	644,500	14,222
uttonfish	198,900	8,839				
ddlefish or spoonbill cat			600	36		
rmit	1,700	34				
gfish	94,800	1,823				
nfish or sailors choice	31,000	620				
mpano	437,500	78,134	1,800	270		
rgies	38,500	934				
wfish	17,500	35				
a bass	52,000	2,022				
a catfish	105,000	210				
ad	782,200	66,986				
arks	3,217,500	8,535				
eepshead	605,900	13,266	8,000	305	23,000	920
ates	175,000	350				
apper:						
Mangrove	228,700	7,017				
Red	4,067,800	224,271	950,500	51,859	123,200	6,720
ook or sergeantfish	421,800	9,946				
anish mackerel	6,734,200	271,787	11,900	533		
ot	85,100	1,687	7,700	141		
ueteagues or "sea trout":						
Gray	10,000	500				
Spotted	3,083,200	163,275	137,500	9,153	146,900	8,814
White	14,300	296	7,600	176	153,500	3,838
rgeon	1,000	60	8,400	912		
nfish	517,500	13,544				
npounder	27,500	482	1,200	12		
ipletail	600	12				
na or "horse mackerel"	4,300	161				
rbot	1,500	45				
ahoo	2,000	60				
nite perch	18,200	728				
llowtail	81,400	4,677				
Total	97,899,100	2,117,934	2,755,200	110,046	1,312,400	42,155
SHELLFISH, ETC.						
abs:						
Hard [1]	182,800	3,474	257,400	3,677	602,700	7,114
King	500,000	600				
Soft			1,600	312	4,200	720
Stone	80,600	5,737				
crawfish or "spiny lobster"	351,300	17,166				
rimp	16,292,200	497,870	4,556,600	115,176	15,329,800	292,522
ms:						
Coquina	5,800	975				
Hard, public [2]	535,000	26,082				
nchs	2,500	75				
sters: [3]						
Market, public, spring	827,400	40,572	195,500	11,509	3,749,800	244,374
Market, public, fall	509,700	30,573	164,600	9,685	1,154,100	65,416
Market, private, spring	361,800	16,656	5,400	450		
Market, private, fall	337,100	13,830	26,300	2,190		
llops:						
Bay	74,100	6,596				
Sea	120,200	17,891				
rapin, diamond back			1,400	361		
rtles:						
Green	4,600	244				
Soft shell	61,200	797				
nges:						
Grass	45,400	24,699				
Sheepswool	458,500	720,257				
Velvet	200	110				
Wire	14,400	7,894				
Yellow	136,800	84,690				
Total	20,901,600	1,516,788	5,208,800	143,360	20,840,600	610,146
Grand total	118,800,700	3,634,722	7,964,000	253,406	22,153,000	652,301

e footnotes at end of table.

Fisheries of the South Atlantic and Gulf States, 1934—Continued

CATCH: BY STATES—Continued

Species	Louisiana		Texas		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					15,111,900	$91,956
Amberjack					4,000	80
Black bass					424,400	25,270
Bluefish					3,732,000	165,124
Blue runner or hardtail					184,000	3,132
Bowfin					600	6
Buffalofish					18,600	744
Butterfish					43,500	745
Cabio or crab eater					7,400	181
Carp					108,600	4,316
Catfish and bullheads	197,000	$6,870	63,100	$1,712	3,480,300	116,624
Cero					4,400	220
Cigarfish					4,500	90
Crappie					462,300	11,956
Crevalle	1,100	35			114,700	1,658
Croaker	300,900	15,177	296,100	9,333	8,374,000	117,767
Dolphin					8,000	240
Drum:						
Black	198,500	7,128	2,252,700	59,648	2,555,800	69,020
Red or redfish	492,500	28,200	1,579,100	95,433	3,364,700	156,220
Eels					62,700	2,596
Flounders	24,300	1,895	97,700	8,469	1,297,000	62,655
Garfish	500	2			500	2
Gizzard shad					24,000	230
Groupers	18,400	770	3,700	80	3,569,700	84,946
Grunts					49,400	1,411
Harvestfish or "starfish"					820,000	12,325
Hickory shad					157,600	6,478
Hogfish					6,000	180
Jewfish	5,000	140	28,300	695	46,700	1,243
Kingfish or "king mackerel"	13,400	445	9,600	384	2,661,100	116,926
King whiting or "kingfish"					661,000	16,063
Mackerel					200	9
Menhaden					164,386,000	541,005
Mojarro					19,100	391
Mullet	18,000	278	39,600	792	30,484,900	811,695
Muttonfish					198,900	8,839
Paddlefish or spoonbill cat					600	36
Permit					1,700	34
Pigfish					186,800	2,953
Pike or pickerel					1,200	66
Pinfish or sailors choice					211,000	1,520
Pompano			2,400	327	442,100	78,791
Porgies					38,500	934
Sawfish					17,500	35
Sea bass					256,600	10,317
Sea catfish					105,000	210
Shad					2,496,800	329,863
Sharks					3,229,500	8,655
Sheepshead	267,500	14,556	290,800	9,785	1,198,900	38,912
Skates					175,000	350
Snapper:						
Mangrove					228,700	7,017
Red	79,000	4,550	635,400	36,092	5,855,900	323,492
Snook or sergeantfish			6,500	565	428,300	10,511
Spadefish					6,000	150
Spanish mackerel	1,900	96	173,600	11,001	6,969,300	285,775
Spot	1,900	67			4,906,200	75,705
Squeteagues or "sea trout":						
Gray					7,741,400	181,218
Spotted	1,073,000	87,046	2,351,700	173,413	8,710,900	543,291
White	444,900	11,038	110,200	2,951	730,500	18,299
Striped bass					362,000	35,675
Sturgeon					72,600	5,560
Sunfish					517,600	13,545
Tenpounder					28,700	494
Tripletail	200	4			800	16
Tuna or "horse mackerel"					4,300	161
Turbot					1,500	45
Wahoo					2,000	60
White perch					540,400	23,071
Yellow perch					17,200	480
Yellowtail					81,400	4,677
Total	3,138,000	178,297	7,940,500	410,680	288,015,400	4,434,261

See footnotes at end of table.

Fisheries of the South Atlantic and Gulf States, 1934—Continued

CATCH: By States—Continued

Species	Louisiana		Texas		Total	
SHELLFISH, ETC.	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs:						
Hard [1]	11,676,500	$163,942	258,100	$12,704	18,012,600	$265,561
King					500,000	600
Soft	651,200	85,569			908,400	122,811
Stone					80,600	5,737
Sea crawfish or "spiny lobster"					351,300	17,166
Shrimp	55,572,300	1,442,370	16,358,600	383,054	119,317,700	3,068,528
Clams:						
Coquina					5,800	975
Hard, public [2]					920,000	65,591
Conchs					2,500	75
Octopus					1,500	90
Oysters: [3]						
Market, public, spring	1,043,700	79,316	689,700	54,084	8,271,900	489,319
Market, public, fall	276,400	34,205	622,100	51,120	3,897,700	241,808
Market, private, spring	1,972,700	132,580			3,303,800	189,993
Market, private, fall	2,298,900	168,214			3,353,100	219,881
Scallops:						
Bay					110,100	12,596
Sea					120,200	17,891
Terrapin, diamond back					16,700	2,016
Turtles:						
Green					4,600	244
Loggerhead	3,500	70			3,500	70
Soft shell					61,200	797
Sponges:						
Grass					45,400	24,699
Sheepswool					458,500	720,257
Velvet					200	110
Wire					14,400	7,894
Yellow					136,800	84,690
Total	73,495,200	2,106,266	17,928,500	500,962	159,898,500	5,559,399
Grand total	76,633,200	2,284,563	25,869,000	911,642	447,913,900	9,993,660

[1] Statistics on hard crabs used in this table are based on yields of 4 pounds per dozen in North Carolina and South Carolina; 6 pounds in Georgia; 6.28 pounds in Florida; 7 pounds in Alabama; 6.09 pounds in Mississippi; 5.43 pounds in Louisiana; and 5.5 pounds in Texas.

[2] Statistics on hard clams used in this table are based on yields of 8 pounds of meats per bushel in all States.

[3] Statistics on market oysters used in this table are based on yields of 5.58 pounds of meats per bushel in North Carolina; 4.74 in South Carolina; 5.88 in Georgia; 3.57 in Florida; 3.29 in Alabama; 2.22 in Mississippi; 4.32 in Louisiana; and 4.41 in Texas.

Note.—The catch for Mississippi includes the following products taken by Mississippi craft in Louisiana waters: Shrimp, 8,734,100 pounds, valued at $166,360; oysters, market, spring, 3,667,700 pounds of meats, valued at $237,876, and oysters, market, fall, 938,100 pounds, valued at $49,790. Of the total catch for Florida all of the mackerel and sea scallops were taken off the coast of New York. In addition 114,600 pounds of bluefish, valued at $8,938, and 1,300 pounds of tuna or "horse mackerel" valued at $41, were taken in the same waters. The seed oyster fishery was prosecuted in this section only in North Carolina where 12 regular fishermen using 6 sail boats and 12 dredges took 17,450 bushels of seed oysters, valued at $2,617 from public beds. All of these fishermen, craft, and gear were duplicated among those in the fisheries for market oysters or other species.

SUPPLEMENTARY TABLE SHOWING THE PRODUCTION OF CERTAIN SHELLFISH IN NUMBER AND BUSHELS

Product	North Carolina		South Carolina		Georgia	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:						
Hard—number	13,630,800	$67,238	24,000	$160	967,000	$7,252
Soft—do	1,005,600	36,210				
Clams, hard, public—bushels	42,250	33,647	5,875	5,862		
Oysters:						
Market, public, spring—do	78,262	18,117	280,401	41,347		
Market, public, fall—do	125,323	33,125	99,473	17,684		
Market, private, spring—do	3,889	1,550	129,662	22,169	55,714	16,588
Market, private, fall—do	538	300	94,241	20,574	41,003	14,773
Scallops:						
Bay—do	6,000	6,000				
Sea—do						

Fisheries of the South Atlantic and Gulf States, 1934—Continued

SUPPLEMENTARY TABLE SHOWING THE PRODUCTION OF CERTAIN SHELLFISH IN NUMBER AND BUSHELS—Continued

Product	Florida		Alabama		Mississippi	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:						
Hard—number	349,148	$3,474	440,154	$3,677	1,187,319	$7,114
Soft—do			4,800	312	12,600	720
Clams, hard, public—bushels	66,875	26,082				
Oysters:						
Market, public, spring—do	231,765	40,572	59,422	11,599	1,689,099	244,374
Market, public, fall—do	142,773	30,573	50,030	9,685	519,865	65,416
Market, private, spring—do	101,345	16,656	1,641	450		
Market, private, fall—do	94,426	13,830	7,994	2,190		
Scallops:						
Bay—do	13,981	6,596				
Sea—do	20,333	17,891				

Product	Louisiana		Texas		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:						
Hard—number	25,805,065	$163,942	562,658	$12,704	42,966,144	$265,561
Soft—do	1,645,136	85,569			2,668,136	122,811
Clams, hard, public—bushels					115,000	65,591
Oysters:						
Market, public, spring—do	241,597	79,316	156,395	54,084	2,736,941	489,319
Market, public, fall—do	63,981	34,205	141,066	51,120	1,142,511	241,808
Market, private, spring—do	456,644	132,580			748,895	189,993
Market, private, fall—do	532,153	168,214			770,355	219,881
Scallops:						
Bay—do					19,981	12,596
Sea—do					20,333	17,891

NOTE.—The Mississippi production includes the following products taken in Louisiana waters by Mississippi craft: Oysters, market, spring, 1,669,910 bushels, valued at $237,876, and oysters, market, fall, 461,487 bushels, valued at $49,790.

Industries related to the fisheries of the South Atlantic and Gulf States, 1934

OPERATING UNITS, SALARIES, AND WAGES

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
Transporting:									
Persons engaged:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	87	104	23	56	10		117		397
On boats	11	58	10	86		10	6		181
Total	98	162	33	142	10	10	123		578
Vessels:									
Motor	48	10	7	31	5		56		157
Net tonnage	427	120	86	456	37		505		1,631
Sail		33							33
Net tonnage		301							301
Total vessels	48	43	7	31	5		56		190
Total net tonnage	427	421	86	456	37		505		1,932
Boats	9	58	5	88		5	3		168
Wholesale and manufacturing:									
Establishments	84	31	29	241	20	40	103	43	591
Persons engaged:									
Proprietors	104	40	37	253	15	37	109	42	637
Salaried employees	21	18	15	157	31	56	85	26	409
Wage earners:									
Average for season	1,269	564	945	1,796	357	2,382	4,452	1,543	13,308
Average for year	465	223	235	916	178	874	1,031	278	4,200
Paid to salaried employees	$55,397	$34,020	$31,001	$242,609	$34,046	$86,119	$138,963	$52,963	$675,118
Paid to wage earners	$219,778	$112,743	$127,355	$544,963	$67,951	$302,140	$634,720	$189,044	$2,198,694
Total salaries and wages	$275,175	$146,763	$158,356	$787,572	$101,997	$388,259	$773,683	$242,007	$2,873,812
Fishermen manufacturing	267	8	14	402	122	61	50	63	987

See footnotes at end of table.

Industries related to the fisheries of the South Atlantic and Gulf States, 1934—Con.

PRODUCTS MANUFACTURED

Item	North Carolina		South Carolina		Georgia		Florida	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:								
Alewife roe, canned standard cases	5,665	$16,609						
Groupers, fresh steaks pounds							341,299	$45,919
Menhaden products:								
Acid scrap tons	4,768	85,800			(1)	(1)	4,140	70,218
Dry scrap do	3,207	107,552					6,523	211,066
Fish meal do	(1)	(1)					1,885	71,240
Oil gallons	407,000	72,960			(1)	(1)	555,250	100,468
Mullet, salted pounds	507,300	22,419					337,800	17,290
Crab meat, packaged, fresh cooked pounds	437,042	143,437			57,500	$15,095	16,700	6,300
Shrimp:								
Cooked and peeled do					(1)	(1)		
Canned standard cases			(1)	(1)	101,411	498,637	48,567	234,888
Crawfish meat, packaged, fresh cooked pounds							56,500	21,738
Clams, hard, canned chowder standard cases							746	2,873
Marine-shell products, novelties								7,900
Oysters:								
Fresh shucked gallons	109,645	93,945	40,901	$40,901	32,207	32,742	115,667	150,770
Canned standard cases			91,752	392,551	(1)	(1)	12,980	51,331
Shell products:								
Poultry feed tons	(1)	(1)	(1)	(1)			54,477	264,403
Lime do	950	4,175	(1)	(1)			(1)	(1)
Unclassified products:								
Packaged, fresh and frozen pounds	[2] 16,000	[2] 2,200					[3] 109,197	[3] 22,600
Canned standard cases			(5)	(5)	(5)	(5)	[6] 18,488	[6] 123,525
Miscellaneous		[7] 60,845		[8] 92,849		[9] 94,522		[10] 35,889
Total		609,942		526,301		640,996		1,438,418
By fishermen:								
Alewives:								
Corned pounds	3,542,000	37,090						
Tight-pack cut do	54,200	2,168						
Tight-pack roe do	103,700	5,185						
Mullet:								
Salted do	10,000	400						
Smoked do							4,500	1,175
Roe, salted do							153,700	9,222
Oysters, fresh shucked gallons	4,850	3,790	957	957	7,335	7,335	10,319	13,298
Scallops, bay, fresh shucked do	4,000	8,000					7,260	7,560
Crab meat, packaged, fresh cooked pounds							5,295	1,733
Total		56,633		957		7,335		32,988
Grand total		666,575		527,258		648,331		1,471,406

Item	Alabama		Mississippi		Louisiana		Texas	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:								
Mullet, salted pounds			(1)	(1)				
Crab meat, packaged, fresh cooked pounds			77,500	$20,025	350,778	$72,144		
Shrimp:								
Fresh and frozen packaged pounds							2,299,800	$379,467
Cooked and peeled do			592,415	130,332			61,399	11,162
Sun dried do					1,762,974	265,344		
Canned standard cases	(1)	(1)	161,119	671,513	520,970	2,206,696	(1)	(1)
Meal tons					904	14,609		
Oysters:								
Fresh shucked gallons	15,390	$19,238	54,631	92,873	207,248	313,993	74,506	109,345
Canned standard cases	(1)	(1)	195,857	822,031	49,133	201,793		
Shell products:								
Poultry feed tons	(1)	(1)	14,029	67,745	(1)	(1)	19,486	86,293
Lime do	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)

See footnotes at end of table.

Industries related to the fisheries of the South Atlantic and Gulf States, 1934—Con.

PRODUCTS MANUFACTURED—Continued

Item	Alabama		Mississippi		Louisiana		Texas	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments—Continued.								
Unclassified products:								
Packaged, fresh and frozen pounds	[4] 22,300	[4]$4,406						
Canned—standard cases	(5)	(5)			(5)	(5)	(5)	(5)
Miscellaneous		[11]323,797		[12] $1,100		[13]$430,980		[14]$446,052
Total		347,441		1,805,619		3,505,559		1,032,319
By fishermen:								
Mullet:								
Salted—pounds	10,000	500					8,929	10,367
Oysters, fresh shucked—gallons	11,360	11,915	2,614	2,614			3,860	641
Crab meat, packaged, fresh cooked—pounds	19,700	4,925			7,500	825		
Shrimp, sun dried—do								11,008
Total		17,340		2,614		825		
Grand total		364,781		1,808,233		3,506,384		1,043,327

[1] This item has been included under "Unclassified products."
[2] Includes fresh fillets of croaker, sea bass and squeteagues, and fresh pandressed croaker.
[3] Includes fresh and frozen fillets of flounders, groupers, mullet, red snapper, snook, spanish mackerel, and squeteagues, and fresh steaks of red snapper.
[4] Includes fresh steaks of grouper and red snapper; and fresh and frozen fillets of flounders, red snapper, spanish mackerel, and squeteagues.
[5] This item has been included under "Miscellaneous."
[6] Includes canned coquina broth, hard-clam products, conch chowder, fish chowder, and turtle products.
[7] Includes corned alewives, salted spot, menhaden fish meal, and oyster-shell poultry feed.
[8] Includes canned shrimp and oyster-shell products.
[9] Includes cooked and peeled shrimp and pickled shrimp; canned oysters and terrapin products; and menhaden products.
[10] Includes fresh-shucked bay scallops; salted mullet roe; smoked fillets of kingfish, mullet, and Spanish mackerel; shark hides, fins and oil; king crab scrap; fish meal; and oyster-shell lime.
[11] Includes canned shrimp and oysters, and oyster-shell products.
[12] Includes salted mullet and oyster-shell lime.
[13] Includes canned frog products and oyster-shell products.
[14] Includes canned shrimp and oyster-shell lime.

NOTE.—The total value of the products for the South Atlantic and Gulf States was as follows: By manufacturing establishments, $9,906,595; and by fishermen, $129,700. Some of the above products may have been manufactured from products imported from another State or country; therefore, they cannot be correlated directly with the catch within the State. Of the total number of persons engaged in the preparation of fishermen's manufactured products, 862 have also been included as fishermen and 203 of the persons shown on transporting craft have also been included as fishermen. This should be considered when computing the total number of persons in the fishery industries exclusive of duplication.

NORTH CAROLINA

Fisheries of North Carolina, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines		Haul seines		Gill nets			
	Menhaden	Other	Common	Long	Anchor	Drift	Runaround	Stake
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	431		12	126	51	12		
On boats and shore:								
Regular	24	7	864	251	392	235	93	308
Casual			389	71	195	104	110	112
Total	455	7	1,265	448	638	351	203	420
Vessels:								
Motor	28		2	37	18	4		
Net tonnage	899		12	259	113	24		
Boats:								
Motor	3	1	171	100	257	108	49	220
Other	6	2	400	95	152	59	101	137
Accessory boats	63			47				
Apparatus:								
Number	31	1	412	87	1,840	220	159	4,931
Length, yards	7,940	175	53,160	86,475				
Square yards					1,128,700	469,170	66,730	388,205

Fisheries of North Carolina, 1934—Continued

OPERATING UNITS: BY GEAR—Continued

Item	Lines				Pound nets	Weirs	Wheels	Fyke nets	Dip nets
	Hand	Troll	Trot with baits or snoods	Trot with hooks					
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	6								
On boats and shore:									
Regular	30	70	268		309			11	190
Casual	50		216	50	226	12	22	24	290
Total	86	70	484	50	535	12	22	35	480
Vessels:									
Motor	1								
Net tonnage	10								
Sail	1								
Net tonnage	8								
Total, vessels	2								
Total, net tonnage	18								
Boats:									
Motor	40	35	200		243	2	14	25	10
Other			151	34	192	10	13	14	285
Accessory boats	2								
Apparatus:									
Number	81	45	423	50	1,522	12	33	480	480
Hooks, baits, or snoods	172	45	342,800	6,200					

Item	Otter trawls, shrimp	Pots		Spears	Dredges, oyster	Tongs, oyster	Rakes, other than for oysters	By hand, other than for oysters	Total, exclusive of duplication
		Eel	Fish						
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	47				89				723
On boats and shore:									
Regular	208	10		15	106	47	191		2,620
Casual	12	13	43	50		202	240	30	2,012
Total	267	23	43	65	195	249	431	30	5,355
Vessels:									
Motor	20								93
Net tonnage	132								1,340
Sail					29				30
Net tonnage					290				298
Total, vessels	20				29				123
Total, net tonnage	132				290				1,638
Boats:									
Motor	110				1	18			1,344
Other		23	27	55	52	172	406	30	1,829
Accessory boats									112
Apparatus:									
Number	130	750	730	65	143	249	431		
Yards, at mouth	2,634				147				

Fisheries of North Carolina, 1934—Continued

CATCH: BY GEAR

Species	Purse seines				Haul seines			
	Menhaden		Other		Common		Long	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					1,053,500	$10,040	377,000	$3,785
Black bass					700	37	800	38
Bluefish	15,000	$750			288,300	11,035	365,000	13,050
Bowfin					600	6		
Butterfish					27,000	440		
Carp					53,000	1,920	35,000	1,700
Catfish and bullheads					43,000	560	27,000	390
Croaker					503,200	5,942	3,109,000	40,560
Drum, red or redfish					26,600	562	31,000	620
Flounders					257,700	11,905	136,000	3,625
Gizzard shad					5,500	53	6,500	57
Harvestfish or "starfish"					51,000	570	12,000	240
Hickory shad					7,000	380		
King whiting or "kingfish"					104,000	2,050	5,000	50
Menhaden	106,104,800	353,766			300,000	916	246,300	821
Mullet	250,000	5,000			2,201,500	59,295	500	15
Pigfish					42,000	630	50,000	500
Pike or pickerel					200	12		
Pinfish or sailors choice					30,000	150	150,000	750
Pompano					400	60		
Shad					38,000	5,820		
Sheepshead					1,400	35		
Spadefish					6,000	150		
Spanish mackerel					2,800	127		
Spot					1,401,000	21,610	2,525,000	39,375
Squeteagues or "sea trout":								
Gray					443,000	8,400	1,634,000	38,670
Spotted					277,500	15,165	1,345,000	69,490
Striped bass			20,000	$2,000	72,500	6,725	66,800	6,680
Sturgeon					1,000	100		
Sunfish					100	1		
White perch					56,000	2,300	72,000	2,820
Yellow perch					9,200	295	200	8
Crabs, soft					138,000	19,200		
Terrapin, diamond back					400	75		
Total	106,369,800	359,516	20,000	2,000	7,442,100	186,566	10,194,100	223,244

Species	Gill nets							
	Anchor		Drift		Runaround		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	751,300	$6,556	225,000	$1,625			79,000	$790
Bluefish	112,500	3,375	321,000	12,650			425,000	13,350
Butterfish	3,000	60					1,000	20
Croaker	2,261,500	26,215	300,000	3,000	10,000	$100	695,000	7,150
Drum, red or redfish	15,000	375					26,000	525
Gizzard shad	3,500	35						
Hickory shad	46,800	2,270					7,500	315
King whiting or "kingfish"	174,000	4,650						
Mullet	62,500	1,275	25,000	500	1,060,000	30,550	286,000	8,540
Sea bass	10,000	450			5,000	225		
Shad	301,300	45,845	114,000	17,020			275,500	41,390
Spanish mackerel							2,000	80
Spot	110,000	1,650	30,000	600	80,000	1,450	310,000	3,800
Squeteagues or "sea trout":								
Gray	1,263,000	41,700	240,000	7,200	10,000	250	660,000	15,875
Spotted	5,000	350	14,000	740	5,000	250	160,000	8,000
Striped bass	73,800	7,380	500	50			13,000	1,300
Sturgeon			600	60				
White perch	32,000	1,140						
Total	5,225,200	143,326	1,270,100	43,445	1,170,000	32,825	2,940,000	101,135

Fisheries of North Carolina, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines							
	Hand		Troll		Trot with baits or snoods		Trot with hooks	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish			8,000	$240				
Catfish and bullheads							4,500	$190
Cero			4,400	220				
Sea bass	60,000	$2,350						
Spanish mackerel			22,000	1,100				
Striped bass							20,000	2,000
Crabs, hard					4,543,600	$67,238		
Total	60,000	2,350	34,400	1,560	4,543,600	67,238	24,500	2,190

Species	Pound nets		Weirs		Wheels		Fyke nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	11,850,200	$64,995			450,000	$2,500	11,000	$110
Bluefish	231,700	9,065						
Butterfish	12,500	225						
Carp	6,500	129	3,000	$90			11,100	477
Catfish and bullheads	25,100	673					63,000	1,360
Croaker	804,100	8,091						
Drum, red or redfish	33,900	668						
Eels							4,900	194
Flounders	567,900	25,897					900	33
Gizzard shad	5,500	55					3,000	30
Harvestfish or "starfish"	757,000	11,515						
Hickory shad	36,400	1,569					2,000	100
King whiting or "kingfish"	11,000	330						
Mullet	3,800	114						
Pike or pickerel							1,000	54
Sea bass	400	20						
Shad	545,200	83,112						
Sheepshead	2,300	45						
Spanish mackerel	20,900	1,051						
Spot	332,000	4,550						
Squeteagues or "sea trout":								
Gray	3,479,400	68,493						
Spotted	42,600	2,170						
Striped bass	92,400	9,240					3,000	300
White perch	133,200	4,053					24,000	780
Yellow perch	1,500	35					6,300	142
Total	18,995,500	296,095	3,000	90	450,000	2,500	130,200	3,580

Species	Dip nets		Otter trawls, shrimp		Pots			
					Eel		Fish	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	100,000	$500						
Eels					39,400	$1,849		
Flounders			6,000	$120				
King whiting or "kingfish"			8,000	160				
White perch							205,000	$11,250
Crabs, soft	113,400	17,010						
Shrimp			2,563,900	80,367				
Total	213,400	17,510	2,577,900	80,647	39,400	1,849	205,000	11,250

Species	Spears		Dredges		Tongs		Rakes		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders	19,000	$570								
Clams, hard, public							330,000	$32,647	8,000	$1,000
Oysters:										
Market, public, spring			254,300	$10,202	182,400	$7,915				
Market, public, fall			512,600	24,030	186,700	9,095				
Market, private, spring					21,700	1,550				
Market, private, fall					3,000	300				
Scallops, bay							36,000	6,000		
Total	19,000	570	766,900	34,232	393,800	18,860	366,000	38,647	8,000	1,000

Fisheries of North Carolina, 1934—Continued

OPERATING UNITS: By counties

Item	Beaufort	Bertie	Bladen	Brunswick	Camden	Carteret	Chowan	Craven
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	14			67		590		
On boats and shore:								
Regular	176			255		759		42
Casual	42	110	30	100	9	285	152	72
Total	232	110	30	422	9	1,634	152	114
Vessels:								
Motor				8		85		
Net tonnage				172		1,168		
Sail	5					9		
Net tonnage	58					77		
Total vessels	5			8		94		
Total net tonnage	58			172		1,245		
Boats:								
Motor	87	32	15	108	7	210	55	40
Other	83	37		97	7	520	55	35
Accessory boats				6		106		
Apparatus:								
Purse seines:								
Menhaden				3		28		
Length, yards				840		7,100		
Haul seines:								
Common	11			17		219		9
Length, yards	4,000			2,450		8,140		2,100
Long	3	2				29		
Length, yards	3,200	3,075				33,700		
Gill nets:								
Anchor	4			50	50	103	245	
Square yards	2,000			45,000	10,000	181,800	122,500	
Drift			15	15		4		6
Square yards			15,000	21,000		11,430		900
Runaround	7			40		23		5
Square yards	4,900			16,000		4,600		2,500
Stake	100					870		190
Square yards	7,000					48,400		10,140
Lines:								
Hand				15		6		
Hooks				30		12		
Troll						45		
Hooks						45		
Trot with baits or snoods	122					6		
Baits or snoods	94,500					4,800		
Pound nets	95	144				80	350	50
Wheels		6						
Fyke nets					40			
Dip nets						330		
Otter trawls, shrimp				65		59		
Yards at mouth				1,285		1,229		
Pots, fish		40						
Spears				15				
Dredges, oyster	42					19		
Yards at mouth	44					19		
Tongs, oyster				20		132		
Rakes, other than for oysters						251		

Item	Currituck	Dare	Gates	Hertford	Hyde	Lenoir	Martin	New Hanover
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					2			
On boats and shore:								
Regular	118	666			120			95
Casual	160	10	18	8		8	233	72
Total	278	676	18	8	122	8	233	167
Vessels:								
Sail					1			
Net tonnage					6			
Boats:								
Motor	121	270	2	2	77	2	19	13
Other	129	226	12	2	41	2	124	108
Apparatus:								
Purse seines:								
Other		1						
Length, yards		175						
Haul seines:								
Common	44	50					3	15
Length, yards	9,050	15,800					1,000	1,800
Long	13	30						
Length, yards	10,400	26,100						

SOUTH CAROLINA

Fisheries of South Carolina, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets			Lines		Otter trawls, shrimp
		Anchor	Drift	Runa-round	Hand	Trot with baits or snoods	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					10		10
On boats and shore:							
Regular	10	32	63	10	120	6	82
Casual	178	129	507	12	45		
Total	188	161	570	22	175	6	92
Vessels, motor					2		3
Net tonnage					20		47
Boats:							
Motor		20	15	2	12		41
Other	31	99	265	8	58	6	
Apparatus:							
Number	27	190	285	16	175	6	50
Length, yards	3, 880						
Square yards		129, 296	217, 120	4, 050			
Yards at mouth							1, 009
Hooks, baits, or snoods					495	4, 500	

Item	Spears	Tongs, oyster	Rakes, clam	Grabs	By hand	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels						20
On boats and shore:						
Regular	10			269		596
Casual	10	11	2	48	55	877
Total	20	11	2	317	55	1, 493
Vessels, motor						5
Net tonnage						67
Boats:						
Motor				6		94
Other	20	11	2	297	38	762
Apparatus, number	20	11	2	317		

CATCH: BY GEAR

Species	Haul seines		Gill nets					
			Anchor		Drift		Runaround	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Drum, red or redfish	3, 500	$105						
Flounders	9, 500	455						
Hickory shad			1, 500	$150	3, 000	$300		
King whiting or "kingfish"	6, 500	195					2, 000	$60
Mullet	600, 000	16, 500					100, 000	2, 500
Sea bass	25, 000	1, 250						
Shad			98, 600	14, 790	110, 000	16, 500		
Spot	8, 500	255					2, 000	60
Squeteagues or "sea trout":								
Gray	1, 000	70						
Spotted	2, 500	175						
Sturgeon			50, 000	3, 500				
Terrapin, diamond back	3, 000	300						
Total	659, 500	19, 305	150, 100	18, 440	113, 000	16, 800	104, 000	2, 620

Fisheries of South Carolina, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines				Otter trawls, shrimp		Spears	
	Hand		Trot with baits or snoods					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	3,000	$180					13,500	$945
Flounders	8,500	375						
Grunts	9,100	273						
King whiting or "kingfish"	5,500	165						
Sea bass	71,200	3,110			10,000	$200		
Sharks	12,000	120						
Squeteagues or "sea trout":								
Gray	1,000	60						
Spotted	11,000	770						
Crabs, hard			8,000	$160				
Shrimp					1,801,400	54,042		
Octopus	1,500	90						
Total	122,800	5,143	8,000	160	1,811,400	54,242	13,500	945

Species	Tongs		Rakes		Grabs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard			600	$75			46,400	$5,787
Oysters:								
Market, public, spring					1,328,300	$41,307	800	40
Market, public, fall					470,600	17,639	900	45
Market, private, spring	17,400	$870			594,800	20,099	2,400	1,200
Market, private, fall	21,000	1,050			422,700	18,024	3,000	1,500
Total	38,400	1,920	600	75	2,816,400	97,069	53,500	8,572

OPERATING UNITS: BY COUNTIES

Item	Beaufort	Charleston	Colleton	Georgetown	Horry	Jasper
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels		20				
On boats and shore:						
Regular	243	222		121	10	
Casual	215	205	145	90	196	26
Total	458	447	145	211	206	26
Vessels, motor		5				
Net tonnage		67				
Boats:						
Motor	48	18	7	21		
Other	266	239	73	92	66	26
Apparatus:						
Haul seines	8	2		3	14	
Length, yards	680	100		600	2,500	
Gill nets:						
Anchor	40	32	38	80		
Square yards	9,200	7,320	8,776	104,000		
Drift	77	64	60	59	25	
Square yards	56,900	44,800	41,120	59,000	15,300	
Runaround				10	6	
Square yards				2,500	1,550	
Lines:						
Hand	25	130			20	
Hooks	25	430			40	
Trot with baits or snoods		6				
Baits or snoods		4,500				
Otter trawls, shrimp	32	15		3		
Yards at mouth	640	309		60		
Spears				10	10	
Tongs, oyster		11				
Rakes, clam	2					
Grabs	183	108				26

Fisheries of South Carolina, 1934—Continued

CATCH: BY COUNTIES

Species	Beaufort		Charleston		Colleton	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish			3,000	$180		
Flounders	14,000	$560	1,000	60		
Grunts			9,100	273		
King whiting or "kingfish"			4,000	120		
Sea bass	50,000	2,500	45,000	1,800		
Shad	22,500	3,375	38,400	5,760	39,200	$5,880
Sharks			12,000	120		
Squeteagues or "sea trout":						
Gray			1,000	60		
Spotted			8,000	560		
Sturgeon					8,300	581
Crabs, hard			8,000	160		
Shrimp	1,427,600	42,828	283,600	8,508		
Clams, hard	600	75				
Octopus			1,500	90		
Oysters:						
Market, public, spring	950,500	29,974	377,800	11,333		
Market, public, fall	296,000	11,102	174,600	6,537		
Market, private, spring	72,200	4,691	510,000	15,858		
Market, private, fall	118,100	7,253	280,000	10,891		
Terrapin, diamond back	2,000	150	1,000	150		
Total	2,953,500	102,508	1,758,000	62,460	47,500	6,461

Species	Georgetown		Horry		Jasper	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Drum, red or redfish			3,500	$105		
Flounders	6,000	$420	10,500	735		
Hickory shad	3,300	330	1,200	120		
King whiting or "kingfish"	2,000	60	8,000	240		
Mullet	200,000	4,000	500,000	15,000		
Sea bass	10,000	200	1,200	60		
Shad	103,200	15,480	5,300	795		
Spot	6,000	180	4,500	135		
Squeteagues or "sea trout":						
Gray			1,000	70		
Spotted			5,500	385		
Sturgeon	41,700	2,919				
Shrimp	90,200	2,706				
Clams, hard	9,600	1,194	36,800	4,593		
Oysters:						
Market, public, spring	800	40				
Market, public, fall	900	45				
Market, private, spring					32,400	$1,620
Market, private, fall					48,600	2,430
Total	473,700	27,574	577,500	22,238	81,000	4,050

GEORGIA

Fisheries of Georgia, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines, menhaden	Haul seines	Gill nets				Lines		
			Anchor	Drift	Run-around	Stake	Hand	Trot with baits or snoods	Trot with hooks
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	50								
On boats and shore:									
Regular					20		3	32	
Casual		18	50	330		10	36		40
Total	50	18	50	330	20	10	39	32	40
Vessels, motor	2								
Net tonnage	108								
Boats.									
Motor				3	10		1		
Other		9	47	165	10	5	16	32	40
Accessory boats	6								
Apparatus:									
Number	2	8	47	165	12	5	39	32	40
Length, yards	600	800							
Square yards			11,375	103,540	3,570	1,800			
Hooks, baits, or snoods							39	10,080	2,840

Fisheries of Georgia, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Cast nets	Otter trawls, shrimp	Pots		Dredges, oyster	Tongs, oyster	Grabs	By hand, oysters	Total, exclusive of duplication
			Crab	Fish					
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									139
On vessels		89							
On boats and shore:									381
Regular		210	18		6	90	20	26	468
Casual	10			20					
Total	10	299	18	20	6	90	20	26	988
Vessels, motor		44							46
Net tonnage		313							421
Boats:									122
Motor		105			3				423
Other	4		18	10		90	20	26	6
Accessory boats									
Apparatus:									
Number	10	149	48	50	3	90	20		
Yards at mouth		3,248			3				

CATCH: By gear

Species	Purse seines, menhaden		Haul seines		Gill nets			
					Anchor		Drift	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Hickory shad					500	$90	10,000	$952
Menhaden	18,751,500	$63,859						
Shad					28,500	5,130	187,500	31,030
Squeteagues or "sea trout", spotted					10,000	800		
Sturgeon							11,600	928
Terrapin, diamond back			11,900	$1,280				
Total	18,751,500	63,859	11,900	1,280	39,000	6,020	209,100	32,910

Species	Gill nets—Continued				Lines			
	Runaround		Stake		Hand		Trot with baits or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Croaker	7,000	$280						
Drum, red or redfish	2,500	125						
Flounders	3,300	96						
King whiting or "kingfish"	10,000	320			2,000	$60		
Mullet	49,000	2,200						
Sea bass	3,000	90			20,000	600		
Shad			16,000	$2,240				
Spot	13,000	460						
Squeteagues or "sea trout", spotted	32,000	2,560			6,000	480		
Crabs, hard							355,500	$5,332
Total	119,800	6,131	16,000	2,240	28,000	1,140	355,500	5,332

Species	Lines—Con.		Cast nets		Otter trawls, shrimp		Pots	
	Trot with hooks						Crab	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	15,000	$900						
Mullet			10,000	$400				
Squeteagues or "sea trout", spotted			8,000	640				
Crabs, hard							128,000	$1,920
Shrimp					6,842,900	$203,127		
Total	15,000	900	18,000	1,040	6,842,900	203,127	128,000	1,920

Fisheries of Georgia, 1934—Continued

CATCH: BY GEAR—Continued

Species	Pots—Contd. Fish		Dredges		Tongs		Grabs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	37,500	$2,250								
Oysters:										
Market, private, spring			33,500	$2,606	116,100	$7,661	143,800	$4,424	34,200	$1,897
Market, private, fall			25,300	1,975	202,100	12,084			13,700	714
Total	37,500	2,250	58,800	4,581	318,200	19,745	143,800	4,424	47,900	2,611

OPERATING UNITS: BY COUNTIES

Item	Bryan	Bulloch	Camden	Charlton	Chatham	Glynn	Liberty	McIntosh	Screven	Tattnall	Wayne
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:											
On vessels			60		21	56		2			
On boats and shore:											
Regular			34		136	116	12	83			
Casual	76	12	28	10	156	82		36	4	24	40
Total	76	12	122	10	313	254	12	121	4	24	40
Vessels, motor			7		10	28		1			
Net tonnage			154		79	180		8			
Boats:											
Motor			17		22	50	1	32			
Other	38	6	14	5	208	63	10	43	4	12	120
Accessory boats			6								
Apparatus:											
Purse seines, menhaden			2								
Length, yards			600								
Haul seines					2	6					
Length, yards					140	660					
Gill nets:											
Anchor					40	3			4		
Square yards					10,000	375			1,000		
Drift	38	6	9	5	35	22		18		12	20
Square yards	34,700	3,360	3,600	2,000	28,000	9,760		14,440		2,880	4,800
Runaround					4	8					
Square yards					800	2,770					
Stake			5								
Square yards			1,800								
Lines:											
Hand					3	36					
Hooks					3	36					
Trot with baits or snoods					24	8					
Baits or snoods					7,200	2,880					
Trot with hooks					40						
Hooks					2,840						
Cast nets					10						
Otter trawls, shrimp			22		27	70		30			
Yards at mouth			462		570	1,613		603			
Pots:											
Crab					12	36					
Fish								50			
Dredges, oyster						2	1				
Yards at mouth						2	1				
Tongs, oyster					71	4	10	5			
Grabs								20			

Fisheries of Georgia, 1934—Continued

CATCH: BY COUNTIES

Species	Bryan		Bullock		Camden		Charlton	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Hickory shad	1,000	$100						
Menhaden					18,751,500	$63,859		
Shad	29,000	5,220	2,500	$270	50,000	7,000	25,000	$3,500
Shrimp					1,044,000	31,320		
Total	30,000	5,320	2,500	270	19,845,500	102,179	25,000	3,500

Species	Chatham		Glynn		Liberty	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	15,000	$900				
Croaker			7,000	$280		
Drum, red or redfish			2,500	125		
Flounders	300	6	3,000	90		
Hickory shad			2,500	450		
King whiting or "kingfish"	2,000	80	10,000	300		
Mullet	35,000	1,400	24,000	1,200		
Sea bass	23,000	690				
Shad	66,000	11,880	21,000	3,600		
Spot	4,000	100	9,000	360		
Squeteagues or "sea trout", spotted	38,000	3,040	18,000	1,440		
Sturgeon	1,000	80				
Crabs, hard	274,500	4,117	209,000	3,135		
Shrimp	2,175,200	63,096	2,030,200	60,906		
Oysters:						
Market, private, spring	111,600	6,606	27,500	2,146	34,800	$2,704
Market, private, fall	127,400	10,591	15,300	1,190	38,400	2,992
Terrapin, diamond back	2,700	360	9,200	920		
Total	2,935,700	102,946	2,388,200	76,142	73,200	5,696

Species	McIntosh		Screven		Tattnall		Wayne	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	37,500	$2,250						
Hickory shad	2,000	200			1,000	$180	4,000	$112
Shad	17,000	3,060	1,500	$270	7,000	1,260	13,000	2,340
Sturgeon	10,600	848						
Shrimp	1,593,500	47,805						
Oysters, market, private, spring	153,700	5,132						
Total	1,814,300	59,295	1,500	270	8,000	1,440	17,000	2,452

FLORIDA

Fisheries of Florida, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines		Haul seines		Gill nets				Trammel nets
	Menhaden	Other	Common	Long	Anchor	Drift	Run-around	Stake	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	120	9							
On boats and shore:									
Regular			479	201	8	101	2,367		311
Casual			112	6	12	61	248	12	4
Total	120	9	591	207	20	162	2,615	12	315
Vessels, motor	5	1							
Net tonnage	293	11							
Boats:									
Motor			99	72	9	55	1,115		117
Other			67	108	6	61	1,780	6	138
Accessory boats	9	2							
Apparatus:									
Number	5	1	116	75	26	105	2,259	6	181
Length, yards	1,475	350	39,455	50,300					
Square yards					38,600	185,790	1,820,749	2,340	129,839

Fisheries of Florida, 1934—Continued

OPERATING UNITS: By GEAR—Continued

Item	Lines				Pound nets	Stop nets	Dip nets		Cast nets
	Hand	Troll	Trot with baits or snoods	Trot with hooks			Common	Drop	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	422								
On boats and shore:									
Regular	641	792	42	93	20	62	44	12	12
Casual	486	188		5			13	12	6
Total	1,549	980	42	98	20	62	57	24	18
Vessels, motor	56								
Net tonnage	1,911								
Boats:									
Motor	319	480	19	26	9	16	31	6	3
Other	437	30	23	69	7	36	35		3
Accessory boats	7								
Apparatus:									
Number	1,549	1,029	30	106	17	9	57	24	18
Square yards						15,670			
Hooks, baits, or snoods	2,155	1,137	6,740	42,360					

Item	Otter trawls		Pots				Spears	Dredges		
	Fish	Shrimp	Crab	Eel	Fish	Sea crawfish		Clam	Oyster	Scallop
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	8	308							10	14
On boats and shore:										
Regular		248	25	2	62	56	5	12		4
Casual			5		9		26			
Total	8	556	30	2	71	56	31	12	10	18
Vessels, motor	2	140							4	2
Net tonnage	33	1,124							33	37
Boats:										
Motor		124	18	2	21	28				4
Other			14		45	10				
Apparatus:										
Number	2	264	1,648	40	3,020	958	31	1	4	6
Yards at mouth	63	5,324							4	11

Item	Tongs, oyster	Rakes, other than for oysters	Forks	Grabs	Coquina scoops	Hooks, sponge	Diving outfits	By hand		Total, exclusive of duplication
								Oysters	Other	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels							8			870
On boats and shore:										
Regular	341		24	28		482	393	63	3	5,461
Casual	50	2	28		2				163	1,177
Total	391	2	52	28	2	482	401	63	166	7,508
Vessels, motor							1			202
Net tonnage							5			3,316
Boats:										
Motor	119			14			52			2,064
Other	140	2	10	7		241		34		2,966
Accessory boats										18
Apparatus, number	391	2	52	28	1	241	53			

Fisheries of Florida, 1934—Continued

CATCH: BY GEAR

Species	Purse seines				Haul seines			
	Menhaden		Other		Common		Long	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives							206,000	$1,030
Black bass					11,300	$904	239,800	14,108
Bluefish					214,100	6,471	6,600	330
Blue runner or hardtail					17,900	225		
Cabio or crab eater					100	2		
Catfish and bullheads					739,000	25,886	1,362,000	42,052
Cigarfish					4,500	90		
Crappie					37,000	1,260	285,100	7,819
Crevalle					11,100	167	27,400	274
Croaker					6,900	179	23,000	460
Drum:								
Black					40,000	953	15,000	300
Red or redfish					93,600	2,361	3,300	131
Flounders					12,000	525		
Groupers							24,000	720
Hickory shad							39,300	244
Kingfish or "king mackerel"			60,000	$2,400	1,300	52		
King whiting or "kingfish"					52,200	1,393		
Menhaden	38,966,400	$121,358			17,000	285		
Mojarro					1,500	30		
Mullet			200,000	4,000	2,948,800	78,384	591,400	9,046
Muttonfish							53,000	1,160
Permit					1,300	26		
Pigfish					8,200	167	28,000	560
Pompano					31,600	5,025	54,000	6,600
Shad					244,800	15,816	295,500	20,622
Sheepshead					27,900	564	28,000	560
Snapper, mangrove					23,900	711	53,700	1,611
Snook or sergeantfish					37,100	770	46,900	1,407
Spanish mackerel					533,600	19,644	400	20
Spot					6,900	198	23,000	460
Squeteagues or "sea trout":								
Spotted					209,800	11,193	16,600	996
White					10,100	185		
Sunfish					25,000	840	407,000	10,773
Tenpounder					27,500	482		
White perch					18,200	728		
Turtles:								
Green					400	4		
Soft shell							55,000	674
Total	38,966,400	121,358	260,000	6,400	5,414,600	175,520	3,884,000	121,957

Species	Gill nets							
	Anchor		Drift		Runaround		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish			9,000	$540	1,231,100	$65,906		
Blue runner or hardtail			1,200	24	156,300	2,701		
Catfish and bullheads					8,200	258		
Crevalle					72,200	1,120		
Croaker					8,000	160		
Drum:								
Black					39,800	792		
Red or redfish					696,800	16,462		
Flounders					23,300	756		
Groupers					53,000	1,510		
Hickory shad			3,600	108				
Kingfish or "king mackerel"					2,000	160		
King whiting or "kingfish"			4,800	159	77,600	1,792		
Mojarro					3,300	75		
Mullet					19,176,700	520,318		
Muttonfish					56,000	1,960		
Pigfish					53,400	992		
Pinfish or sailors choice					31,000	620		
Pompano					170,600	30,879		
Sawfish					17,500	35		
Sea bass					7,000	260		
Sea catfish					105,000	210		
Shad	20,000	$2,500	214,900	26,788			7,000	$1,260
Sharks	3,200,000	8,500			17,500	35		
Sheepshead					413,600	9,156		

Fisheries of Florida, 1934—Continued

CATCH: BY GEAR—Continued

Species	Gill nets							
	Anchor		Drift		Runaround		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Skates					175,000	$350		
Snapper:								
Mangrove					74,300	2,137		
Red					69,200	4,116		
Snook or sergeantfish					228,900	4,674		
Spanish mackerel			81,300	$3,252	5,927,200	238,964		
Spot					54,500	1,015		
Squeteagues or "sea trout":								
Spotted			8,100	486	2,112,900	111,682		
White					300	9		
Sturgeon			1,000	60				
Turtles, green	3,000	$180						
Total	3,223,000	11,180	323,900	31,417	31,062,100	1,019,104	7,000	$1,260

Species	Trammel nets		Lines					
			Hand		Troll		Trot with baits or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Amberjack			2,500	$55	1,500	$25		
Black bass			26,800	1,608				
Bluefish			156,600	11,058	303,500	15,590		
Blue runner or hardtail			700	24				
Cabio or crab eater			6,800	164				
Croaker					500	15		
Dolphin					8,000	240		
Drum:								
Black			5,200	118				
Red or redfish	26,400	$717	169,300	4,087				
Flounders	300	11						
Groupers			3,245,600	76,344				
Grunts			20,300	538				
Hogfish			4,000	120				
Jewfish			12,400	388				
Kingfish or "king mackerel"					2,574,500	113,473		
Mackerel			200	9				
Mullet	588,200	16,709						
Muttonfish			77,900	4,999				
Pompano	172,900	33,635	4,200	1,155				
Porgies			28,300	630				
Sea bass			44,000	1,722	1,000	40		
Sheepshead	7,500	199	115,400	2,534				
Snapper:								
Mangrove	300	9	64,900	2,031				
Red			3,987,600	219,275				
Snook or sergeantfish			91,800	2,529				
Spanish mackerel			10,000	440	149,400	8,175		
Squeteagues or "sea trout":								
Spotted	158,200	8,190	521,200	27,850				
White	1,100	30	2,500	63				
Tripletail			600	12				
Tuna or "horse mackerel"			1,300	41	3,000	120		
Wahoo					2,000	60		
Yellowtail			81,400	4,677				
Crabs, hard							91,900	$2,075
Total	954,900	59,500	8,681,500	362,471	3,043,400	137,738	91,900	2,076

Fisheries of Florida, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines—Con.		Pound nets		Stop nets		Dip nets	
	Trot with hooks						Common	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			8,900	$25				
Bluefish			12,000	720	1,000	$60		
Blue runner or hardtail			5,000	100				
Cabio or crab eater			500	15				
Catfish and bullheads	354,300	$10,476	136,400	4,769				
Crevalle					300	4		
Croaker					4,000	80		
Drum:								
Black					100	2		
Red or redfish			1,600	49	25,900	470		
Eels			200	7				
Flounders					6,400	192		
Groupers			800	16				
Jewfish			1,000	20				
Kingfish or "king mackerel"			300	12				
King whiting or "kingfish"					4,000	80		
Mojarro					9,300	186		
Mullet					428,200	11,680		
Permit					400	8		
Pigfish					5,200	104		
Pompano					4,200	840		
Porgies			200	4				
Sheepshead			500	15	13,000	238		
Snapper, mangrove			500	15	2,100	53		
Snook or sergeantfish					9,100	166		
Spanish mackerel			32,300	1,292				
Spot					700	14		
Squeteagues or "sea trout":								
Spotted			7,200	390	49,200	2,488		
White					300	9		
Sunfish			14,600	438				
Crabs, king							500,000	$600
Sea crawfish or "spiny lobster"							131,100	5,244
Turtles:								
Green			1,200	60				
Soft shell			200	3				
Total	354,300	10,476	223,400	7,950	563,400	16,674	631,100	5,844

Species	Dip nets—Con.		Cast nets		Otter trawls			
	Drop				Fish		Shrimp	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Croaker					10,000	$300		
Flounders					11,200	606	2,500	$50
King whiting or "kingfish"					70,000	2,100	116,000	2,320
Mojarro			5,000	$100				
Mullet			33,000	990				
Porgies					10,000	300		
Squeteagues or "sea trout", gray					10,000	500		
Crabs, hard	5,600	$120						
Sea crawfish or "spiny lobster"	100,000	4,000						
Shrimp							16,292,200	497,870
Total	105,600	4,120	38,000	1,090	111,200	3,806	16,410,700	500,240

Fisheries of Florida, 1934—Continued

CATCH: BY GEAR—Continued

Species	Pots							
	Crab		Eel		Fish		Sea crawfish	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Black bass					145,000	$8,575		
Catfish and bullheads					254,300	10,036		
Crappie					140,200	2,877		
Eels			18,200	$546				
Groupers					18,000	900		
Grunts					20,000	600		
Hogfish					2,000	60		
Muttonfish					12,000	720		
Snapper:								
Mangrove					9,000	450		
Red					11,000	880		
Snook or sergeantfish					8,000	400		
Sunfish					70,900	1,493		
Turbot					1,500	45		
Crabs:								
Hard	85,300	$1,279						
Stone	80,600	5,737						
Sea crawfish or "spiny lobster"							89,300	$5,759
Total	165,900	7,016	18,200	546	691,900	27,036	89,300	5,759

Species	Spears		Dredges					
			Clam		Oyster		Scallop	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders	19,200	$1,002						
Clams, hard, public			399,800	$19,994				
Oysters:								
Market, public, spring					47,600	$1,680		
Market, private, spring					17,200	1,516		
Market, private, fall					6,400	572		
Scallops:								
Bay							16,000	$1,000
Sea							120,200	17,891
Total	19,200	1,002	399,800	19,994	71,200	3,768	136,200	18,891

Species	Tongs		Rakes		Forks		Grabs	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sea crawfish or "spiny lobster"							30,900	$2,163
Clams, hard, public			500	$50	134,200	$5,988		
Oysters:								
Market, public, spring	779,800	$38,892						
Market, public, fall	509,700	30,573						
Market, private, spring	73,100	5,444						
Market, private, fall	39,100	3,028						
Total	1,401,700	77,937	500	50	134,200	5,988	30,900	2,163

Species	Coquina scoops		Hooks, sponge		Diving outfits		By hand			
							Oysters		Other	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:										
Coquina	5,800	$975								
Hard, public									500	$50
Conchs			2,500	$75						
Oysters:										
Market, private, spring							271,500	$9,696		
Market, private, fall							291,600	10,230		
Scallops, bay									58,100	5,596
Turtles, soft shell									6,000	120
Sponges:										
Grass			45,400	24,699						
Sheepswool			129,900	190,756	328,600	$529,501				
Velvet			200	110						
Wire			300	88	14,100	7,806				
Yellow			62,100	34,541	74,700	50,149				
Total	5,800	975	240,400	250,269	417,400	587,456	563,100	19,926	64,600	5,766

Fisheries of Florida, 1934—Continued

OPERATING UNITS: BY COUNTIES

Item	Bay	Brevard	Broward	Charlotte	Citrus	Clay	Collier	Dade
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	51	5						14
On boats and shore:								
Regular	194	166	22	137	130	32	234	423
Casual	34	28	57	35	17		22	100
Total	279	199	79	172	147	32	256	537
Vessels, motor	8	1						2
Net tonnage	81	19						26
Boats:								
Motor	40	69	38	55	58	10	81	276
Other	57	94	4	135	122	18	176	82
Accessory boats								2
Apparatus:								
Purse seines:								
Other than menhaden								1
Length, yards								350
Haul seines:								
Common	14			5			5	
Length, yards	5,300			2,240			1,850	
Long						8		
Length, yards						6,200		
Gill nets:								
Anchor		8						
Square yards		8,000						
Runaround	8	85	2	70	104		136	147
Square yards	5,850	73,800	600	78,360	64,500		144,765	35,740
Trammel nets	2			6			20	
Square yards	1,100			4,900			23,100	
Lines:								
Hand	111	52	50	47	25		72	155
Hooks	214	52	50	47	25		72	165
Troll		12	40	16	2		52	250
Hooks		12	40	16	2		52	250
Trot with hooks						16		
Hooks						9,600		
Stop nets				7				
Square yards				11,070				
Dip nets, drop								12
Otter trawls:								
Shrimp		16						1
Yards at mouth		323						23
Pots:								
Crab		483						400
Fish								50
Sea crawfish			350					520
Spears	7							
Dredges, clam							1	
Tongs, oyster	58				20			
Forks							18	
Grabs								28

Item	Duval	Escambia	Franklin	Glades	Gulf	Hernando	Hillsborough	Indian River
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	12	236	42		56		44	
On boats and shore:								
Regular	142	107	411	46	20	8	95	51
Casual	48	16	22		5		28	26
Total	202	359	475	46	81	8	167	77
Vessels, motor	6	27	12		2		7	
Net tonnage	40	1,561	83		93		96	
Boats:								
Motor	68	35	181	22	6	2	33	26
Other	68	14	85	28	5	8	99	50
Apparatus:								
Purse seines, menhaden					2			
Length, yards					560			
Haul seines:								
Common	6	6	5		2			
Length, yards	6,000	2,100	2,050		800			
Long				10				
Length, yards				8,800				

Fisheries of Florida, 1934—Continued

OPERATING UNITS: BY COUNTIES—Continued

Item	Duval	Escambia	Franklin	Glades	Gulf	Hernando	Hillsborough	Indian River
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Gill nets:								
Anchor	6							
Square yards	21,000							
Drift	42		2					
Square yards	84,000		950					
Runaround	4	12	35		5	8	77	77
Square yards	5,330	72,350	21,800		10,350	5,230	56,535	49,600
Trammel nets		14					5	
Square yards		7,100					4,150	
Lines:								
Hand	32	276	40		5		79	20
Hooks	64	552	74		5		127	20
Troll	5							
Hooks	5							
Trot with baits or snoods	12		14					
Baits or snoods	1,800		3,950					
Trot with hooks	40		7					
Hooks	12,000		360					
Dip nets:								
Common							4	
Drop		12						
Cast nets							12	
Otter trawls:								
Shrimp	18		64					
Yards at mouth	380		768					
Pots, fish			195	1,200				
Spears			11					
Dredges:								
Oyster			4					
Yards at mouth			4					
Scallop					4			
Yards at mouth					5			
Tongs, oyster			212				2	

Item	Jefferson	Lee	Levy	Manatee	Martin	Monroe	Nassau	Okaloosa
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels							129	
On boats and shore:								
Regular	10	307	114	88	96	420	99	115
Casual	7	59	23	21	26	15	35	
Total	17	366	137	109	122	435	263	115
Vessels, motor							33	
Net tonnage							439	
Boats:								
Motor	3	165	48	39	39	89	30	22
Other	17	328	126	104	30	172	46	20
Accessory boats							9	
Apparatus:								
Purse seines:								
Menhaden							3	
Length, yards							915	
Haul seines:								
Common		4		12			3	8
Length, yards		1,325		2,940			300	3,200
Long					10			
Length, yards					9,600			
Gill nets:								
Anchor						12		
Square yards						9,600		
Drift				5			13	
Square yards				2,000			5,840	
Runaround	10	264	94	76	30	44	4	10
Square yards	5,800	206,175	49,100	69,830	36,000	135,240	1,014	5,430
Stake							6	
Square yards							2,340	
Trammel nets		11	38	5				10
Square yards		23,300	20,800	4,235				5,240
Lines:								
Hand	17	124	28	16		38	20	22
Hooks	17	124	28	16		38	40	44
Troll		20	52	6	30	86		
Hooks		20	52	6	60	86		
Trot with baits or snoods		2						
Baits or snoods		490						

Fisheries of Florida, 1934—Continued

OPERATING UNITS: By counties—Continued

Item	Jefferson	Lee	Levy	Manatee	Martin	Monroe	Nassau	Okaloosa
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Apparatus—Continued.								
Pound nets			3			53		
Dip nets, common								
Otter trawls:								
Fish							1	
Yards at mouth							33	
Shrimp							50	
Yards at mouth							1,110	
Pots:				75		175		
Crab						88		
Sea crawfish								4
Spears			14					
Tongs, oyster				2				
Forks								
Coquina scoops		1						
Hooks, sponge						122		

Item	Okeechobee	Palm Beach	Pasco	Pinellas	Putnam	St. Johns	St. Lucie
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
On vessels				54		215	
On boats and shore:							
Regular	34	240	24	820	164	66	136
Casual		86		162		30	36
Total	34	326	24	1,036	164	311	172
Vessels, motor				7		92	
Net tonnage				97		739	
Boats:							
Motor	14	129	12	163	64	20	68
Other	19	69	24	278	93	32	40
Accessory boats						7	
Apparatus:							
Haul seines:							
Common				9			
Length, yards				3,650			
Long	4				40		
Length, yards	3,600				19,700		
Gill nets:							
Drift				14	29		
Square yards				35,000	58,000		
Runaround		270	24	194		3	117
Square yards		68,400	15,100	282,680		1,500	92,875
Trammel nets				4	4		
Square yards				2,400	1,064		
Lines:							
Hand		20		112	50	34	
Hooks		20		173	50	34	
Troll		192		54			126
Hooks		264		60			126
Trot with hooks	18				25		
Hooks	9,000				11,400		
Pound nets					14		
Stop nets				2			
Square yards				4,600			
Cast nets		6					
Otter trawls:							
Fish						1	
Yards at mouth						30	
Shrimp						108	
Yards at mouth						2,565	
Pots:							
Crab				515			
Eel					40		
Fish	1,560				15		
Dredges, scallop						2	
Yards at mouth						6	
Tongs, oyster				8			
Forks				12		20	
Hooks, sponge				70			
Diving outfits				53			

SPONGES SOLD AT THE EXCHANGE, TARPON SPRINGS, FLA.

During 1934 sponges sold on the exchange at Tarpon Springs, Fla., amounted to 499,635 pounds, valued at $670,533. This is an increase of 34 percent in volume and 59 percent in value as compared with the transactions on the exchange in 1933. Of the total sponges sold, 137,879 pounds, valued at $287,062, were large wool; 28,751 pounds, valued at $34,654, were medium and small wool; 183,956 pounds, valued at $250,858, were wool rags; 105,572 pounds, valued at $70,560, were yellow; 29,391 pounds, valued at $19,503, were grass; and 14,086 pounds, valued at $7,806, were wire. It is estimated that sponges valued at $25,000 were sold outside the exchange.

ALABAMA

Fisheries of Alabama, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets, stake	Trammel nets	Lines			Fyke nets
				Hand	Trot with baits or snoods	Trot with hooks	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				70			
On boats and shore:							
Regular	48	3	64	9	12	22	2
Casual			7	47	20	5	
Total	48	3	71	126	32	27	2
Vessels, motor				9			
Net tonnage				114			
Boats:							
Motor	9	1	25	2	2	4	2
Other	6	3	58	21	28	27	
Apparatus:							
Number	8	16	57	126	38	112	10
Length, yards	4,350						
Square yards		2,450	18,745				
Hooks, baits, or snoods				204	7,640	11,550	

Item	Otter trawls, shrimp	Pots, fish	Spears	Dredges, oyster	Tongs, oyster	By hand, other than for oysters	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	50			18	4		122
On boats and shore:							
Regular	270	16	2		94	2	436
Casual		3	58		8	44	125
Total	320	19	60	18	106	46	683
Vessels, motor	25			8	2		34
Net tonnage	225			58	16		339
Boats:							
Motor	135	3			42		184
Other		19			37		160
Apparatus:							
Number	160	78	60	9	106		
Yards at mouth	2,067			9			

Fisheries of Alabama, 1934—Continued

CATCH: BY GEAR

Species	Haul seines		Gill nets, stake		Trammel nets		Lines: Hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	25,200	$588			3,400	$166		
Blue runner or hardtail	2,900	58						
Catfish and bullheads	200	4			2,200	88	2,400	$96
Crevalle	2,600	58						
Croaker	10,800	196			9,000	164	1,400	26
Drum:								
Black	700	20						
Red or redfish	19,300	776			37,500	1,374	7,900	292
Flounders	500	35			2,500	171		
Groupers							151,200	3,356
King whiting or "kingfish"	3,800	70			900	18	100	2
Mullet	528,200	12,387			640,000	16,000		
Pompano					1,800	270		
Sheepshead	1,000	37			5,200	196	1,800	72
Snapper, red							950,500	51,859
Spanish mackerel	1,700	121			10,200	412		
Spot	4,600	85			3,100	56		
Squeteagues or "sea trout":								
Spotted	25,100	1,611			102,300	6,860	10,100	682
White	1,300	30			3,400	81	2,900	65
Sturgeon			8,400	$912				
Tenpounder	1,200	12						
Total	629,100	16,088	8,400	912	821,500	25,856	1,128,300	56,450

Species	Lines—Continued: Trot with baits or snoods		Lines—Continued: Trot with hooks		Fyke nets		Otter trawls	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Buffalofish			16,200	$648	2,400	$96		
Catfish and bullheads			50,500	3,030	14,000	840		
Paddlefish or spoonbill cat			600	36				
Crabs, hard	257,400	$3,677					4,556,600	$115,176
Shrimp								
Total	257,400	3,677	67,300	3,714	16,400	936	4,556,600	115,176

Species	Pots		Spears		Dredges		Tongs		By hand	
	Lb.	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*
Catfish and bullheads	51,300	$3,578								
Flounders			32,900	$2,512					1,600	$312
Crabs, soft										
Oysters:										
Market, public, spring					105,600	$6,224	89,900	$5,285		
Market, public, fall					4,200	250	160,400	9,435		
Market, private, spring							5,400	450		
Market, private, fall							26,300	2,190		
Terrapin, diamond back									1,400	361
Total	51,300	3,578	32,900	2,512	109,800	6,474	282,000	17,360	3,000	673

Fisheries of Alabama, 1934—Continued

OPERATING UNITS: BY COUNTIES

Item	Baldwin	Mobile
	Number	*Number*
Fishermen:		
On vessels	14	108
On boats and shore:		
Regular	65	371
Casual	33	92
Total	112	571
Vessels, motor	7	27
Net tonnage	72	267
Boats:		
Motor	24	160
Other	37	123
Apparatus:		
Haul seines	1	7
Length, yards	500	3,850
Gill nets, stake	16	----------
Square yards	2,450	----------
Trammel nets	22	35
Square yards	8,390	10,355
Lines:		
Hand	15	111
Hooks	15	189
Trot with baits or snoods	----------	38
Baits or snoods	----------	7,640
Trot with hooks	4	108
Hooks	750	10,800
Fyke nets	----------	10
Otter trawls, shrimp	15	145
Yards at mouth	189	1,878
Pots, fish	----------	78
Spears	22	38
Dredges, oyster	----------	9
Yards at mouth	----------	9
Tongs, oyster	26	80

CATCH: BY COUNTIES

Species	Baldwin		Mobile	
	Pounds	*Value*	*Pounds*	*Value*
Bluefish	3,900	$177	24,700	$577
Blue runner or hardtail	600	12	2,300	46
Buffalofish	----------	----------	18,600	744
Catfish and bullheads	6,500	370	114,100	7,266
Crevalle	----------	----------	2,600	58
Croaker	5,700	104	15,500	282
Drum:				
Black	200	6	500	14
Red or redfish	27,700	1,012	37,000	1,430
Flounders	3,600	269	32,300	2,449
Groupers	----------	----------	151,200	3,356
King whiting or "kingfish"	300	6	4,500	84
Mullet	283,000	7,085	885,200	21,302
Paddlefish or spoonbill cat	----------	----------	600	36
Pompano	1,600	240	200	30
Sheepshead	3,700	144	4,300	161
Snapper, red	----------	----------	950,500	51,859
Spanish mackerel	10,600	442	1,300	91
Spot	2,000	38	5,700	103
Squeteagues or "sea trout":				
Spotted	44,200	3,184	93,300	5,969
White	----------	----------	7,600	176
Sturgeon	8,400	912	----------	----------
Tenpounder	----------	----------	1,200	12
Crabs:				
Hard	----------	----------	257,400	3,677
Soft	----------	----------	1,600	312
Shrimp	392,000	8,976	4,164,600	106,200
Oysters:				
Market, public, spring	8,500	500	187,000	11,009
Market, public, fall	17,000	1,000	147,600	8,685
Market, private, spring	5,400	450	----------	----------
Market, private, fall	26,300	2,190	----------	----------
Terrapin, diamond back	800	203	600	158
Total	852,000	27,320	7,112,000	226,086

MISSISSIPPI

Fisheries of Mississippi, 1934

OPERATING UNITS: By gear

Item	Haul seines	Trammel nets	Lines		Dip nets, drop	Cast nets
			Hand	Trot with baits or snoods		
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels			15			
On boats and shore:						
Regular	6	41	12	86		
Casual			132	13	30	64
Total	6	41	159	99	30	64
Vessels, motor			3			
Net tonnage			25			
Boats:						
Motor	1	18	9	32		
Other	1	31	94	65	14	
Apparatus:						
Number	1	27	159	99	120	64
Length, yards	300					
Square yards		7,370				
Hooks, baits, or snoods			178	19,260		

Item	Otter trawls, shrimp	Spears	Dredges, oyster	Tongs, oyster	By hand, other than for oysters	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels	164		520			557
On boats and shore:						
Regular	568	2	276	217		917
Casual		70		7	38	232
Total	732	72	796	224	38	1,706
Vessels, motor	82		130			144
Net tonnage	916		1,777			1,905
Boats:						
Motor	284		69	8		341
Other				208		361
Apparatus:						
Number	366	72	398	224		
Yards at mouth	4,658		398			

CATCH: By gear

Species	Haul seines		Trammel nets		Lines			
					Hand		Trot with baits or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads			14,000	$280	16,300	$326		
Croaker			6,000	150	7,600	189		
Drum:								
Black			2,200	36	1,600	23		
Red or redfish	8,000	$320	53,300	2,100	11,700	468		
Flounders			4,500	225				
Groupers					55,000	1,250		
King whiting or "kingfish"			2,200	54	1,400	35		
Mullet	137,000	2,740	482,000	10,950				
Sheepshead	8,000	320	13,300	532	1,700	68		
Snapper, red					123,200	6,720		
Squeteagues or "sea trout":								
Spotted	12,000	720	82,500	4,950	52,400	3,144		
White	30,000	750	73,000	1,825	50,500	1,263		
Crabs, hard							548,100	$6,412
Total	195,000	4,850	733,000	21,102	321,400	13,486	548,100	6,412

Fisheries of Mississippi, 1934—Continued

CATCH: BY GEAR—Continued

Species	Dip nets, drop		Cast nets		Otter trawls, shrimp		Spears	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders					6,500	$325	31,000	$1,860
Mullet			25,500	$532				
Crabs, hard	54,600	$702						
Shrimp:								
Mississippi			6,500	650	6,589,200	125,512		
Louisiana					8,734,100	166,360		
Total	54,600	702	32,000	1,182	15,329,800	292,197	31,000	1,860

Species	Dredges		Tongs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, soft					4,200	$720
Oysters:						
Market, public, spring, Mississippi	26,700	$1,805	55,400	$4,693		
Market, public, fall, Mississippi	155,400	10,500	60,600	5,126		
Market, public, spring, Louisiana	3,659,600	237,202	8,100	674		
Market, public, fall, Louisiana	937,700	49,759	400	31		
Total	4,779,400	299,266	124,500	10,524	4,200	720

OPERATING UNITS: BY COUNTIES

Item	Hancock	Harrison	Jackson
	Number	*Number*	*Number*
Fishermen:			
On vessels		538	19
On boats and shore:			
Regular	48	744	125
Casual	40	138	54
Total	88	1,420	198
Vessels, motor		139	5
Net tonnage		1,827	78
Boats:			
Motor	14	277	50
Other	30	275	56
Apparatus:			
Haul seines			1
Length, yards			300
Trammel nets	6	10	11
Square yards	1,800	2,465	3,105
Lines:			
Hand	29	94	36
Hooks	29	104	45
Trot with baits or snoods		88	11
Baits or snoods		18,100	1,160
Dip nets, drop	120		
Cast nets		57	7
Otter trawls, shrimp		319	47
Yards at mouth		4,080	578
Spears	10	42	20
Dredges, oyster	16	370	12
Yards at mouth	16	370	12
Tongs, oyster	4	191	29

Fisheries of Mississippi, 1934—Continued

CATCH: BY COUNTIES

Species	Hancock		Harrison		Jackson	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish or bullheads	2,100	$42	22,800	$456	5,400	$108
Croaker	1,700	42	7,800	194	4,100	103
Drum:						
Black	1,100	17	1,700	22	1,000	20
Red or redfish	18,500	740	31,700	1,268	22,800	880
Flounders	7,500	425	29,700	1,705	4,800	280	
Groupers			38,500	875	16,500	375
King whiting or "kingfish"	1,400	35	2,100	52	100	2
Mullet	75,000	1,500	127,500	2,822	442,000	9,900
Sheepshead	1,600	64	2,700	108	18,700	748
Snapper, red			88,000	4,800	35,200	1,920
Squeteagues or "sea trout":						
Spotted	38,000	2,280	62,000	3,720	46,900	2,814
White	30,000	750	55,000	1,375	68,500	1,713
Crabs:						
Hard	54,600	702	506,100	5,932	42,000	480
Soft	1,400	280	2,800	440		
Shrimp:						
Mississippi			4,287,900	82,084	2,307,800	44,078
Louisiana			8,219,400	156,560	514,700	9,800
Oysters:						
Market, public, spring, Mississippi	6,600	562	33,300	2,819	42,200	3,117
Market, public, fall, Mississippi	164,500	11,269	2,400	205	49,100	4,152
Market, public, spring, Louisiana			3,592,900	233,023	74,800	4,853
Market, public, fall, Louisiana			938,100	49,790		
Total	404,000	18,708	18,052,400	548,250	3,696,600	85,343

LOUISIANA

Fisheries of Louisiana, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Trammel nets	Lines			Dip nets	
			Hand	Trot with baits or snoods	Trot with hooks	Common	Drop
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	11	6	5				
On boats and shore:							
Regular	568	76	89	242		94	187
Casual	64	58	149	138	4	65	113
Total	643	140	243	380	4	159	300
Vessels, motor	2	3	1				
Net tonnage	13	20	5				
Boats:							
Motor	78	63	72	37			13
Other	111		71	343	4	153	283
Accessory boats	1						
Apparatus:							
Number	95	75	242	380	4	159	13,369
Length, yards	21,404						
Square yards		13,599					
Hooks, baits, or snoods			253	83,035	1,800		

Fisheries of Louisiana, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Cast nets	Otter trawls, shrimp	Brush traps	Dredges, oyster	Tongs, oyster	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels		240		59	111	369
On boats and shore:						
Regular	59	2,993	101	32	647	4,529
Casual	119			6		626
Total	178	3,233	101	97	758	5,524
Vessels, motor		112		17	45	151
Net tonnage		754		166	313	1,056
Boats:						
Motor		1,499		15	3	1,698
Other	68		101		343	1,243
Accessory boats					61	62
Apparatus:						
Number	178	1,611	25,250	57	758	
Yards at mouth		19,354		58		

CATCH: By gear

Species	Haul seines		Trammel nets		Lines			
					Hand		Trot with baits or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	84,200	$2,918	69,100	$2,468	43,700	$1,484		
Crevalle	100	4	1,000	31				
Croaker	145,000	7,138	67,500	3,192	84,400	4,367		
Drum:								
Black	74,100	2,613	66,300	2,415	58,100	2,100		
Red or redfish	128,200	7,650	180,900	10,163	182,500	10,278		
Flounders	4,900	381	16,800	1,317	2,600	197		
Garfish			500	2				
Groupers					18,400	770		
Jewfish	300	9	1,300	38	3,400	93		
Kingfish or "king mackerel"	1,200	49	12,200	396				
Mullet	16,400	251	1,600	27				
Sheepshead	152,100	8,367	78,000	4,147	37,400	2,042		
Snapper, red					79,000	4,550		
Spanish mackerel					1,900	96		
Spot	200	10	1,700	57				
Squeteagues or "sea trout":								
Spotted	385,300	30,389	250,200	20,216	433,500	35,941		
White	244,600	5,844	122,800	3,112	77,500	2,082		
Tripletail					200	4		
Crabs, hard	496,000	16,352					8,624,900	$88,060
Shrimp	5,769,500	149,888						
Turtles, loggerhead	3,500	70						
Total	7,505,600	231,933	869,900	47,581	1,022,600	64,004	8,624,900	88,060

Species	Lines—Con.		Dip nets				Cast nets	
	Trot with hooks		Common		Drop			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Croaker	4,000	$480						
Drum, red or redfish	900	109						
Squeteagues or "sea trout", spotted	4,000	500						
Crabs:								
Hard			353,100	$6,364	2,202,500	$53,166		
Soft			131,100	19,869				
Shrimp							553,700	$10,918
Total	8,900	1,089	484,200	26,233	2,202,500	53,166	553,700	10,918

Fisheries of Louisiana, 1934—Continued

CATCH: BY GEAR—Continued

Species	Otter trawls		Brush traps		Dredges		Tongs	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, soft			520,100	$65,700				
Shrimp	49,249,100	$1,281,564						
Oysters:								
Market, public, spring					1,006,900	$75,424	36,800	$3,892
Market, public, fall					253,100	32,105	23,300	2,100
Market, private, spring					14,900	1,491	1,957,800	131,089
Market, private, fall					5,300	558	2,293,600	167,656
Total	49,249,100	1,281,564	520,100	65,700	1,280,200	109,578	4,311,500	304,737

NOTE.—The catch as shown above for Louisiana does not include the following products which were taken by Mississippi craft in Louisiana waters: Shrimp, 8,734,100 pounds, valued at $166,360; and oysters, market, spring, 3,667,700 pounds, of meats, valued at $237,876, and oysters, market, fall, 938,100 pounds of meats, valued at $49,790. These products have been included with the Mississippi catch.

OPERATING UNITS: BY PARISHES

Item	Calcasieu	Cameron	Iberia	Jefferson Davis	Jefferson	La Fourche	Orleans	Plaquemines
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					44	120	63	40
On boats and shore:								
Regular		6	8	2	1,180	760	207	491
Casual	3		2	2	38		121	40
Total	3	6	10	4	1,262	880	391	571
Vessels, motor					19	46	20	20
Net tonnage					143	311	177	122
Boats:								
Motor	1	3	5	2	368	314	53	185
Other	1				284	81	123	91
Accessory boats					4	32	2	10
Apparatus:								
Haul seines					25	1	21	4
Length, yards					10,570	400	2,263	1,560
Trammel nets			1		10	1	2	28
Square yards			175		1,903	180	450	5,175
Lines:								
Hand	2			4	25		68	27
Hooks	2			4	25		79	27
Trot with baits or snoods					132		18	11
Bait or snoods					38,185		7,450	1,650
Dip nets:								
Common	1						24	
Drop					1,950		5,417	
Brush traps					25,250			
Cast nets					30		78	
Otter trawls, shrimp		3	2	1	354	347	26	174
Yards at mouth		35	24	12	4,278	4,178	337	2,096
Dredges, oyster			2		8	4	26	11
Yards at mouth			2		8	4	26	11
Tongs, oyster					14	209	8	155

Item	St. Bernard	St. Charles	St. John the Baptist	St. Mary	St. Tammany	Tangipahoa	Terrebonne	Vermilion
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	11				2		89	
On boats and shore:								
Regular	383	80	1	138	42	13	1,216	2
Casual	150	24	40	64	36	7	93	6
Total	544	104	41	202	80	20	1,398	8
Vessels, motor	3				1		42	
Net tonnage	22				9		272	
Boats:								
Motor	157	46		42	1		517	4
Other	208	18	39	113	76	20	189	

Fisheries of Louisiana, 1934—Continued

OPERATING UNITS: By parishes—Continued

Item	St. Bernard	St. Charles	St. John the Baptist	St. Mary	St. Tammany	Tangipahoa	Terrebonne	Vermilion
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Accessory boats	1				1		12	
Apparatus:								
Haul seines	24		12	1	2		5	
Length, yards	4,780		520	165	166		980	
Trammel nets	7						25	1
Square yards	1,330						4,226	160
Lines:								
Hand	1			14	60		41	
Hooks	1			14	60		41	
Trot with baits or snoods	90	24	2	100	1		2	
Bait or snoods	14,800	3,600	500	16,500	50		300	
Trots, with hooks			4					
Hooks			1,800					
Dip nets:								
Common	82				39	13		
Drop	3,817				1,730	455		
Cast nets						20	50	
Otter trawls, shrimp	116	40		20			528	
Yards at mouth	1,424	457		232			6,281	
Dredges, oyster	2							4
Yards at mouth	2							5
Tongs, oyster	1			49	3		319	

CATCH: By parishes

Species	Calcasieu		Cameron		Iberia		Jefferson Davis	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	500	$15			1,600	$66		
Croaker	500	27			1,800	91		
Drum:								
Black					2,200	110		
Red or redfish	800	49			6,400	384		
Sheepshead	300	14			1,600	78		
Squeteagues or "sea trout", spotted	2,100	164			7,200	577	6,400	$512
Crabs, hard	4,900	178						
Shrimp			60,100	$1,804	24,200	723	12,000	360
Oysters:								
Market, private, spring					8,500	851		
Market, private, fall					2,700	286		
Total	9,100	447	60,100	1,804	56,200	3,166	18,400	872

Species	Jefferson		La Fourche		Orleans		Plaquemines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	8,400	$290	1,200	$37	67,300	$2,323	39,500	$1,357
Crevalle							1,100	35
Croaker	8,900	414	1,600	63	110,100	5,452	70,500	3,290
Drum:								
Black	7,700	276	1,500	59	54,800	1,954	52,800	1,883
Red or redfish	16,800	977	1,900	116	69,400	4,164	118,000	6,695
Flounders	3,600	291	1,400	109	900	73	5,100	386
Garfish			500	2				
Groupers					18,400	770		
Jewfish					3,400	93	1,600	47
Kingfish or "king mackerel"							3,600	108
Mullet					14,900	220		
Sheepshead	11,400	612	1,800	109	139,300	7,641	51,000	2,810
Snapper, red					79,000	4,550		
Spanish mackerel	400	21					1,500	75
Squeteagues or "sea trout":								
Spotted	35,700	2,936	3,200	259	318,300	25,414	214,600	17,165
White	9,600	259	1,600	33	219,500	5,696	63,600	1,388
Tripletail	200	4						
Crabs:								
Hard	5,416,700	53,183			1,647,500	47,118	108,000	960
Soft	520,100	65,700			26,700	4,199		
Shrimp	14,051,700	363,922	10,475,500	271,506	1,084,000	26,317	5,991,500	154,159
Oysters:								
Market, public, spring	218,500	13,309	284,500	16,255	375,400	39,373	145,600	8,323
Market, public, fall	25,300	2,218			227,800	29,887		
Market, private, spring	25,300	1,990	383,000	29,783	12,000	700	870,900	50,650
Market, private, fall	25,800	2,066	380,700	30,461	16,500	1,098	1,195,300	80,667
Turtles, loggerhead					3,500	70		
Total	20,386,100	508,468	11,538,400	348,792	4,488,700	207,112	8,934,200	329,998

Fisheries of Louisiana, 1934—Continued

CATCH: BY PARISHES—Continued

Species	St. Bernard		St. Charles		St. John the Baptist		St. Mary	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	27,000	$917					2,900	$112
Croaker	62,400	3,022			4,000	$480	7,900	330
Drum:								
Black	33,400	1,160					5,100	198
Red or redfish	63,400	3,759			900	109	19,100	982
Flounders	1,400	95						
Mullet	800	12						
Sheepshead	27,900	1,556					4,100	190
Spot	700	17						
Squeteagues or "sea trout":								
Spotted	165,200	12,985			4,000	500	25,700	2,060
White	89,600	1,931						
Crabs:								
Hard	2,315,400	34,373	288,000	$4,320	13,300	362	1,602,100	16,374
Soft	23,400	3,690						
Shrimp	5,034,900	130,561	1,257,600	37,609	19,700	788	559,600	14,511
Oysters:								
Market, public, spring	18,200	1,656						
Market, public, fall	21,100	1,690						
Market, private, spring							89,800	6,980
Market, private, fall							90,600	7,247
Total	7,884,800	197,424	1,545,600	41,929	41,900	2,239	2,406,900	48,984

Species	St. Tammany		Tangipahoa		Terrebonne		Vermilion	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads					47,600	$1,722	1,000	$31
Croaker	7,600	$756			24,400	1,206	1,200	46
Drum:								
Black					39,400	1,406	1,600	82
Red or redfish	5,100	307			188,100	10,500	2,600	158
Flounders					11,900	941		
Kingfish or "king mackerel"					9,800	337		
Mullet					2,300	46		
Sheepshead					29,200	1,500	900	46
Spot					1,200	50		
Squeteagues or "sea trout":								
Spotted	70,300	6,406			217,200	17,816	3,100	252
White					61,000	1,731		
Crabs:								
Hard	145,100	4,324	77,000	$2,100	58,500	650		
Soft	43,900	6,130	37,100	5,850				
Shrimp			20,400	816	16,981,100	439,294		
Oysters:								
Market, public, spring	1,500	400						
Market, public, fall	2,200	410						
Market, private, spring					576,800	40,986	6,400	640
Market, private, fall					584,700	46,117	2,600	272
Total	275,700	18,733	134,500	8,766	18,833,200	564,302	19,400	1,527

TEXAS

Fisheries of Texas, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Tram-mel nets	Lines			
		Run-around	Stake		Hand	Troll	Trot with baits or snoods	Trot with hooks
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					54			
On boats and shore:								
Regular	2	39	143	148	102			80
Casual	47		1	25	200	17	36	11
Total	49	39	144	173	356	17	36	91
Vessels, motor					9			
Net tonnage					136			
Boats:								
Motor		16	31	69	69	10		30
Other	3	3	33	15	136		36	39
Apparatus:								
Number	23	84	215	85	356	17	36	68
Length, yards	2, 500							
Square yards		18, 344	53, 662	40, 240				
Hooks, baits, or snoods					356	17	13, 200	52, 150

Item	Dip nets	Cast nets	Otter trawls, shrimp	Spears	Dredges, oyster	Tongs, oyster	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			57		20		114
On boats and shore:							
Regular			591		121	86	1, 068
Casual	6	1		105		110	459
Total	6	1	648	105	141	196	1, 641
Vessels, motor			27		6		35
Net tonnage			232		54		345
Boats:							
Motor			292		41	9	462
Other	6	1		21		99	345
Apparatus:							
Number	6	1	319	105	48	196	
Yards at mouth			5, 066		53		

CATCH: BY GEAR

Species	Haul seines		Gill nets				Trammel nets	
			Runaround		Stake			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	1, 500	$30	4, 200	$106	11, 200	$279	22, 900	$635
Croaker	7, 700	228	14, 400	484	39, 000	1, 286	148, 400	4, 625
Drum:								
Black	26, 400	716	373, 600	9, 527	1, 124, 000	28, 387	172, 400	5, 065
Red or redfish	39, 500	2, 366	119, 400	7, 172	335, 400	20, 123	692, 700	42, 254
Flounders	5, 600	465	4, 500	370	4, 300	378	27, 500	2, 457
Mullet	39, 100	782					900	162
Pompano							140, 200	4, 384
Sheepshead, salt water	9, 400	302	13, 800	478	34, 400	1, 548	4, 800	429
Snook or sergeantfish							52, 500	3, 191
Spanish mackerel	6, 800	410	12, 700	833	15, 100	1, 057		
Squeteagues or "sea trout":								
Spotted	63, 100	4, 606	199, 600	14, 194	594, 500	42, 196	949, 600	71, 383
White	3, 600	77	5, 900	137	13, 800	328	63, 800	1, 817
Total	202, 700	9, 982	748, 100	33, 301	2, 171, 700	95, 582	2, 275, 700	136, 402

Fisheries of Texas, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines								Dip nets	
	Hand		Troll		Trot with baits or snoods		Trot with hooks			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	10,100	$280					13,200	$382		
Croaker	50,500	1,591					36,100	1,119		
Drum:										
Black	281,500	7,745					274,800	8,208		
Red or redfish	210,800	12,644					181,300	10,874		
Flounders	15,500	1,299					2,100	176		
Groupers	3,700	80								
Jewfish	28,300	695								
Kingfish or "king mackerel"			9,600	$384						
Pompano	1,500	165								
Sheepshead, salt water	50,700	1,602					42,300	1,471		
Snapper, red	635,400	36,092								
Snook or sergeantfish	1,700	136								
Spanish mackerel	53,000	3,436	25,200	1,512			8,300	562		
Squeteagues or "sea trout":										
Spotted	336,700	24,973					208,200	16,061		
White	14,300	371					8,800	221		
Crabs, hard					204,300	$10,748			53,800	$1,956
Total	1,693,700	91,109	34,800	1,896	204,300	10,748	775,100	39,074	53,800	1,956

Species	Cast nets		Otter trawls		Spears		Dredges		Tongs	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders					38,200	$3,324				
Mullet	500	$10								
Shrimp			16,358,600	$383,054						
Oysters:										
Market, public, spring							301,200	$26,903	388,500	$27,181
Market, public, fall							244,500	21,324	377,600	29,796
Total	500	10	16,358,600	383,054	38,200	3,324	545,700	48,227	766,100	56,977

OPERATING UNITS: BY COUNTIES

Item	Aransas	Brazoria	Calhoun	Cameron	Galveston	Harris
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels	4		12	5	55	
On boats and shore:						
Regular	100	9	189	121	196	16
Casual	20	25	5	28	104	31
Total	124	34	206	154	355	47
Vessels, motor	2		4	1	11	
Net tonnage	19		26	6	157	
Boats:						
Motor	42	12	88	34	89	2
Other	22	10	4	39	51	30
Apparatus:						
Haul seines				1	14	
Length, yards				100	1,600	
Gill nets:						
Runaround	24			29		
Square yards	4,008			9,686		
Stake	45			99		
Square yards	7,470			33,066		
Trammel nets	12	1	29		12	10
Square yards	6,384	533	14,652		5,365	2,666
Lines:						
Hand	22	10	14	38	88	5
Hooks	22	10	14	38	88	5
Troll		10		7		
Hooks		10		7		
Trot with baits or snoods					17	12
Baits or snoods					6,400	4,000
Trot with hooks	4	3	1			
Hooks	1,400	900	1,500			

Fisheries of Texas, 1934—Continued

OPERATING UNITS: By counties—Continued

Item	Aransas	Brazoria	Calhoun	Cameron	Galveston	Harris
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Dip nets	6					
Otter trawls, shrimp	25	2	60	13	83	1
Yards at mouth	385	27	950	205	1,405	12
Spears		4		6	7	
Dredges, oyster	14		20		1	1
Yards at mouth	16		22		1	1
Tongs, oyster	12	10	8	28	42	11

Item	Jefferson	Kleberg	Matagorda	Nueces	Refugio	San Patricio
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			15	7		16
On boats and shore:						
Regular		26	140	147		124
Casual	7		41	149	8	41
Total	7	26	196	303	8	181
Vessels, motor			6	3		8
Net tonnage			50	27		60
Boats:						
Motor		5	58	66		66
Other	7	21	31	90	9	32
Apparatus:						
Haul seines				8		
Length, yards				800		
Gill nets:						
Runaround				31		
Square yards				4,650		
Stake				62		9
Square yards				11,558		1,568
Trammel nets			11			10
Square yards			5,320			5,320
Lines:						
Hand	7	18	1	109		44
Hooks	7	18	1	109		44
Trot with baits or snoods	7					
Baits or snoods	2,800					
Trot with hooks		26	2	19	8	5
Hooks		26,000	700	19,350	1,600	700
Cast nets				1		
Otter trawls, shrimp			49	32		54
Yards at mouth			744	486		852
Spears			15	68		5
Dredges, oyster			10	2		
Yards at mouth			11	2		
Tongs, oyster			56	15	6	8

CATCH: By counties

Species	Aransas		Brazoria		Calhoun		Cameron	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads	9,700	$244			18,000	$503	6,400	$155
Croaker	34,100	1,260	800	$23	84,800	2,543	14,600	365
Drum:								
Black	73,000	1,897	1,400	42	39,500	1,180	1,530,000	38,252
Red or redfish	97,400	5,844	78,300	4,696	328,200	19,695	349,700	20,986
Flounders	4,900	389	1,000	112	12,700	1,199	11,000	885
Groupers							1,200	30
Jewfish							5,000	200
Kingfish or "king mackerel"			6,400	256			3,200	128
Sheepshead, salt water	39,000	1,558	1,100	33	72,100	2,159	10,800	667
Snapper, red			6,300	410			53,400	3,474
Spanish mackerel	29,100	2,133	20,100	1,206	41,700	2,270	11,900	778
Squeteagues or "sea trout":								
Spotted	185,000	12,952	82,600	6,614	326,200	24,063	643,100	45,018
White	14,600	365	500	14	40,200	1,154	5,400	131
Crabs, hard	53,800	1,956						
Shrimp	1,258,100	29,441	82,900	1,941	3,042,300	71,192	662,300	15,756
Oysters:								
Market, public, spring	103,600	8,174	8,600	600	131,700	9,860	12,600	875
Market, public, fall	83,300	6,613	8,300	640	143,000	11,046	13,700	980
Total	1,985,600	72,826	298,300	16,587	4,280,400	146,864	3,334,300	128,680

Fisheries of Texas, 1934—Continued

CATCH: BY COUNTIES—Continued

Species	Galveston		Harris		Jefferson		Kleberg	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads							12,100	$364
Croaker	40,000	$1,198			2,800	$84	16,100	485
Drum:								
Black	27,000	821			6,200	186	274,600	8,240
Red or redfish	171,600	10,368	62,100	$4,347	13,400	804	36,400	2,181
Flounders	10,800	1,003	1,500	150			4,200	375
Groupers	2,500	50						
Jewfish	3,100	93						
Mullet	39,100	782						
Sheepshead, salt water	59,400	1,801			2,200	66	20,200	808
Snapper, red	575,700	32,208						
Spanish mackerel	9,100	636					8,300	593
Squeteagues or "sea trout":								
Spotted	348,700	26,199	77,300	6,648	15,600	1,248	32,400	2,585
White	17,900	537			900	27		
Crabs, hard	87,900	4,700	83,100	4,536	33,300	1,512		
Shrimp	4,531,800	106,043	37,700	882				
Oysters:								
Market, public, spring	130,000	9,317	37,500	2,600				
Market, public, fall	106,500	9,416	33,700	2,760				
Total	6,161,100	205,172	332,900	21,923	74,400	3,927	404,300	15,631

Species	Matagorda		Nueces		Refugio		San Patricio	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Catfish and bullheads			7,700	$183			9,200	$263
Croaker	17,700	$533	35,500	1,063	1,000	$31	48,700	1,748
Drum:								
Black	80,400	2,411	151,100	4,533			69,500	2,086
Red or redfish	164,600	9,875	173,700	10,413	9,100	544	94,600	5,680
Flounders	4,100	457	27,400	2,205			20,100	1,694
Jewfish			15,100	302			5,100	100
Mullet			500	10				
Pompano	900	162	1,200	132			300	33
Sheepshead, salt water	15,500	468	30,600	922	1,400	43	38,500	1,260
Snook or sergeantfish			1,700	136			4,800	429
Spanish mackerel			30,600	1,789			22,800	1,596
Squeteagues or "sea trout":								
Spotted	163,900	12,398	166,400	12,989	11,100	890	299,400	21,809
White	7,200	193	15,400	306			8,100	224
Shrimp	2,406,900	56,325	1,556,700	36,428			2,779,900	65,046
Oysters:								
Market, public, spring	212,600	18,844	25,700	1,913	10,000	695	17,400	1,206
Market, public, fall	175,300	15,121	26,500	2,120	5,600	404	26,200	2,020
Total	3,249,100	116,787	2,265,800	75,444	38,200	2,607	3,444,600	105,194

FISHERIES OF THE PACIFIC COAST STATES [11]

The yield of the commercial fisheries of the Pacific Coast States (Washington, Oregon, and California) during 1934 amounted to 1,546,102,000 pounds, valued at $19,950,059 to the fishermen, representing an increase of 80 percent in volume and 43 percent in value as compared with the catch in the previous year. These fisheries gave employment to 19,232 fishermen as compared with 18,673 in 1933.

There were 323 fishery wholesale and manufacturing establishments in the three States in 1934 as compared with 313 in 1933.

[11] Data on the operating units and catch of the fisheries of the Pacific Coast States have been taken largely from statistics collected by the various State agencies. Supplementary surveys, compilations, and analyses have been made by agents of this Bureau in order that the figures may be presented in a manner comparable with those of other sections. While statistics of the fisheries of California are for the calendar year, those for Oregon and Washington are for the fiscal year ending Mar. 31, except that statistics of the halibut fishery in these latter States are for the calendar year. For a clearer understanding of the statistics published in this section the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

During 1934 these establishments employed 13,220 persons, paid $7,031,444 in salaries and wages, and produced manufactured products (canned, cured, packaged, and byproducts) valued at $41,007,888. In 1933 the wholesale and manufacturing firms employed 11,993 persons, paid $6,095,492 in salaries and wages, and produced manufactured products, valued at $28,772,185.

Fisheries of the Pacific Coast States, 1934

SUMMARY OF CATCH

Product	Washington		Oregon	
	Pounds	*Value*	*Pounds*	*Value*
Fish	105,726,200	$5,580,945	24,118,500	$1,343,440
Shellfish, etc.	7,742,400	724,182	2,339,400	113,238
Total	113,468,600	6,305,127	26,457,900	1,456,678

Product	California		Total	
	Pounds	*Value*	*Pounds*	*Value*
Fish	1,392,972,100	$11,365,306	1,522,816,800	$18,289,691
Shellfish, etc.	9,205,000	731,368	19,286,800	1,568,788
Whale products	3,998,400	91,580	3,998,400	91,580
Total	1,406,175,500	12,188,254	1,546,102,000	19,950,059

OPERATING UNITS: BY STATES

Item	Washington				Oregon		
	Puget Sound district	Coastal district	Columbia River district	Total	Columbia River district	Coastal district	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	3,118	47	8	3,173	39	16	55
On boats and shore	1,915	3,044	1,152	6,111	2,068	1,438	3,506
Total	5,033	3,091	1,160	9,284	2,107	1,454	3,561
Vessels:							
Steam	1			1			
Net tonnage	23			23			
Motor	492	21	2	515	19	8	27
Net tonnage	10,651	156	34	10,841	176	87	263
Sail	3			3			
Net tonnage	1,346			1,346			
Total vessels	496	21	2	519	19	8	27
Total net tonnage	12,020	156	34	12,210	176	87	263
Boats:							
Motor	854	448	602	1,904	1,145	954	2,099
Other	328	180	78	586	59	131	190
Accessory boats	306			306			
Apparatus:							
Purse seines, salmon	227			227			
Length, yards	135,746			135,746			
Haul, seines	65		24	89	33	3	36
Length, yards	5,821		7,560	13,381	17,225	466	17,691
Gill nets:							
Drift	298	126	394	818	871	515	1,386
Square yards	390,976	225,400	1,095,320	1,711,696	2,754,973	630,875	3,385,848
Set	3	193	96	292	137	795	932
Square yards	810	53,259	24,384	78,453	38,497	254,400	292,897
Lines:							
Trawl, set, and hand	25,557		309	25,866	434	183	617
Hooks	522,714		7,200	529,914	12,125	6,425	18,550
Troll	1,790	540	60	2,390	796	845	1,641
Hooks	8,055	2,430	240	10,725	3,582	3,802	7,384
Pound nets	112	99	211	422	27		27
Brush weirs	5			5			
Fish wheels			27	27			

Fisheries of the Pacific Coast States, 1934—Continued

OPERATING UNITS: By States—Continued

Item	Washington				Oregon		
	Puget Sound district	Coastal district	Columbia River district	Total	Columbia River district	Coastal district	Total
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Dip nets	9	41	178	228	133	----------	133
Drag bag nets	37	6	----------	43	----------	----------	----------
Length, yards	2,959	390	----------	3,349	----------	----------	----------
Reef nets	6	----------	----------	6	----------	----------	----------
Beam trawls	8	----------	----------	8	----------	----------	----------
Yards at mouth	42	----------	----------	42	----------	----------	----------
Otter trawls	25	----------	----------	25	----------	1	1
Yards at mouth	304	----------	----------	304	----------	20	20
Traps:							
Crab	2,576	2,605	----------	5,181	----------	8,760	8,760
Crawfish	----------	----------	----------	----------	1,920	----------	1,920
Tongs, rakes, and shovels	552	2,539	----------	3,091	----------	149	149
Dredges, oyster	----------	4	----------	4	----------	----------	----------
Yards at mouth	----------	6	----------	6	----------	----------	----------

Item	California						Grand total
	Northern district	San Francisco district	Monterey district	San Pedro district	San Diego district	Total	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	34	603	648	1,725	676	3,686	6,914
On boats and shore	271	937	556	723	214	2,701	12,318
Total	305	1,540	1,204	2,448	890	6,387	19,232
Vessels:							
Steam	----------	2	----------	----------	----------	2	3
Net tonnage	----------	41	----------	----------	----------	41	64
Motor	14	61	67	186	76	404	946
Net tonnage	121	1,761	1,878	7,155	4,296	15,211	26,315
Sail	----------	2	----------	----------	----------	2	5
Net tonnage	----------	824	----------	----------	----------	824	2,170
Total vessels	14	65	67	186	76	408	954
Total net tonnage	121	2,626	1,878	7,155	4,296	16,076	28,549
Boats.							
Motor	202	585	217	349	109	1,462	5,465
Other	1	38	38	50	5	132	908
Accessory boats	----------	78	89	205	72	444	750
Apparatus:							
Purse seines:							
Mackerel	----------	----------	----------	17	----------	17	17
Length, yards	----------	----------	----------	6,707	----------	6,707	6,707
Salmon	----------	----------	----------	----------	----------	----------	227
Length, yards	----------	----------	----------	----------	----------	----------	135,746
Sardine	----------	33	42	71	----------	146	146
Length, yards	----------	11,187	13,850	27,187	----------	52,224	52,224
Tuna	----------	----------	----------	66	----------	66	66
Length, yards	----------	----------	----------	38,212	----------	38,212	38,212
Lampara nets:							
Mackerel	----------	----------	----------	62	16	78	78
Length, yards	----------	----------	----------	24,686	4,813	29,499	29,499
Sardine	----------	20	32	43	8	103	103
Length, yards	----------	5,550	8,840	18,282	2,320	34,992	34,992
Other	----------	----------	23	9	----------	32	32
Length, yards	----------	----------	4,025	3,240	----------	7,265	7,265
Haul seines	----------	6	----------	----------	----------	6	131
Length, yards	----------	770	----------	----------	----------	770	31,842
Gill nets:							
Drift:							
Barracuda	----------	----------	----------	18	16	34	34
Square yards	----------	----------	----------	201,546	126,800	328,346	328,346
Salmon	----------	155	----------	----------	----------	155	2,359
Square yards	----------	534,750	----------	----------	----------	534,750	5,632,294
Shad	----------	191	----------	----------	----------	191	191
Square yards	----------	673,275	----------	----------	----------	673,275	673,275

Fisheries of the Pacific Coast States, 1934—Continued

OPERATING UNITS: By States—Continued

Item	California						Grand total
	Northern district	San Francisco district	Monterey district	San Pedro district	San Diego district	Total	
Apparatus—Continued.							
Gill nets—Continued.							
Set:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
"California halibut"			8			8	8
Square yards			37,826			37,826	37,826
Salmon							1,224
Square yards							371,350
Sea bass				32	14	46	46
Square yards				155,936	69,230	225,166	225,166
Miscellaneous	16	55	59	23	9	162	162
Square yards	12,000	64,543	86,065	14,522	14,360	191,490	191,490
Trammel nets				36	12	48	48
Square yards				188,784	121,120	309,904	309,904
Lines:							
Trawl, set, and hand	497	1,150	853	1,592	907	4,999	31,482
Hooks	88,086	63,032	87,646	289,456	45,620	573,840	1,122,304
Troll	1,006	870	467	724	234	3,301	7,332
Hooks	4,604	5,315	2,672	724	234	13,549	31,658
Pound nets							449
Brush weirs							5
Fish wheels							27
Fyke nets		2,075				2,075	2,075
Dip nets	30	3				33	394
Bag nets, shrimp		11				11	11
Length, yards		7,312				7,312	7,312
Drag bag nets							43
Length, yards							3,349
Reef nets							6
Paranzella nets		9	2	4		15	15
Yards at mouth		150	33	67		250	250
Beam trawls		19				19	27
Yards at mouth		127				127	169
Otter trawls							26
Yards at mouth							324
Traps:							
Crab	579	5,226	112			5,917	19,858
Crawfish							1,920
Lobster				5,172	1,348	6,520	6,520
Octopus			6			6	6
Harpoons:							
Swordfish and turtles				37	14	51	51
Whales		2				2	2
Tongs, rakes, and shovels	14	102	37	64		217	3,457
Abalone outfits			17	2		19	19
Dredges, oyster							4
Yards at mouth							6

CATCH: By States

Species	Washington		Oregon	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Carp	99,600	$2,988	6,000	$180
Cod [2]	10,403,900	145,134		
Flounders:				
"Sole"	961,700	32,493	22,800	919
Other	56,500	1,220	48,300	732
Halibut	23,276,000	1,677,761	500,900	38,198
Herring	242,000	1,531	37,400	416
"Lingcod"	1,105,600	35,603	129,700	3,658
Perch	62,000	1,681	8,700	146
Rockfishes	566,400	20,041	52,900	1,494
Sablefish	2,242,800	85,286	102,400	2,991
Salmon:				
Blueback, red or sockeye	24,089,600	1,543,642	207,000	20,700
Chinook or king	17,002,600	1,190,739	12,110,000	825,416
Chum or keta	9,723,600	210,101	972,100	11,528
Humpback or pink	190,500	5,715		
Silver or coho	11,557,600	504,650	6,918,400	309,098
Shad	171,100	5,133	905,200	24,032
Smelt	2,572,400	39,161	564,200	14,112
Steelhead trout	1,371,300	77,188	1,458,900	86,959
Striped bass			23,700	1,405
Sturgeon	31,000	878	48,900	1,344
Tuna and tunalike fishes, albacore			1,000	112
Total	105,726,200	5,580,945	24,118,500	1,343,440

[2] The cod were taken off Alaska.

Fisheries of the Pacific Coast States, 1934—Continued

CATCH: BY STATES—Continued

Species	Washington		Oregon	
SHELLFISH, ETC.	*Pounds*	*Value*	*Pounds*	*Value*
Crabs	1,124,900	$63,824	2,086,400	$85,352
Crawfish			143,600	14,360
Shrimp	59,900	4,193		
Clams:				
Hard	683,000	36,282		
Razor	547,800	78,260	38,600	5,521
Mixed			38,500	1,907
Octopus	65,700	2,193		
Oysters:				
Eastern, market	500	175		
Japanese, market	4,925,100	356,059	24,500	1,741
Native, market	317,700	179,949	7,800	4,357
Scallops, bay	12,200	3,051		
Squid	5,600	196		
Total	7,742,400	724,182	2,339,400	113,238
Grand total	113,468,600	6,305,127	26,457,900	1,456,678

Species	California [1]		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	257,500	$3,722	257,500	$3,722
Barracuda	2,182,800	94,859	2,182,800	94,859
Cabrilla	331,700	13,528	331,700	13,528
Carp	158,000	2,140	263,600	5,308
Catfish	184,900	22,647	184,900	22,647
Cod [2]	6,036,400	76,100	16,440,300	221,234
Corbina	1,000	62	1,000	62
Flounders:				
"California halibut"	1,037,000	81,109	1,037,000	81,109
"Sole"	8,967,600	450,840	9,952,100	484,252
Other	1,376,700	56,691	1,481,500	58,643
Flyingfish	26,400	885	26,400	885
Grayfish	526,300	12,435	526,300	12,435
Groupers	61,400	3,076	61,400	3,076
Hake	56,900	572	56,900	572
Halibut	1,023,000	64,192	24,799,900	1,780,151
Hardhead	147,400	6,882	147,400	6,882
Herring	801,600	4,539	1,081,000	6,486
Horse mackerel	1,581,300	15,013	1,581,300	15,013
Kingfish	634,300	14,772	634,300	14,772
"Lingcod"	856,600	27,799	2,091,900	67,060
Mackerel	113,848,500	720,128	113,848,500	720,128
Marlin	64,800	2,799	64,800	2,799
Mullet	19,000	795	19,000	795
Perch	192,700	11,912	263,400	13,739
Pilchard or sardine	1,135,958,800	4,177,728	1,135,958,800	4,177,728
Pompano	4,500	1,906	4,500	1,906
Rock bass	412,400	20,697	412,400	20,697
Rockfishes	4,608,600	162,952	5,227,900	184,487
Rudderfish	32,300	1,389	32,300	1,389
Sablefish	2,105,200	56,856	4,450,400	145,133
Salmon:				
Blueback, red or sockeye			24,296,600	1,564,342
Chinook or king	4,319,600	329,571	33,432,200	2,345,726
Chum or keta			10,695,700	221,629
Humpback or pink			190,500	5,715
Silver or coho			18,476,000	813,748
Sculpin	71,200	4,432	71,200	4,432
Sea bass:				
Black	858,800	37,783	858,800	37,783
White	851,600	56,459	851,600	56,459
Shad	872,600	28,288	1,948,900	57,453
Sheepshead	143,500	4,801	143,500	4,801
Skates	232,300	2,969	232,300	2,969
Smelt	730,000	30,414	3,866,600	83,687
Spanish mackerel	6,900	225	6,900	225
Splittail	55,000	662	55,000	662
Squawfish	1,600	53	1,600	53
Steelhead trout			2,830,200	164,147
Striped bass	801,300	47,794	825,000	49,199
Sturgeon			79,900	2,222
Suckers	63,000	701	63,000	701
Swordfish	264,000	37,144	264,000	37,144
Tomcod	900	18	900	18

[1] Taken off the Pacific coast including Latin America.
[2] The cod were taken off Alaska.

Fisheries of the Pacific Coast States, 1934—Continued

CATCH: BY STATES—Continued

Species	California		Total	
FISH—continued				
Tuna and tunalike fishes:	*Pounds*	*Value*	*Pounds*	*Value*
Albacore	119,800	$9,203	120,800	$9,315
Bluefin	18,357,800	846,082	18,357,800	846,082
Bonito	3,202,700	76,876	3,202,700	76,876
Skipjack or striped tuna	14,830,200	593,524	14,830,200	593,524
Yellowfin	60,913,200	3,053,229	60,913,200	3,053,229
Whitebait	106,000	5,187	106,000	5,187
Whitefish	93,200	5,205	93,200	5,205
Yellowtail	2,347,200	79,388	2,347,200	79,388
Other fish	234,100	6,273	234,100	6,273
Total	1,392,972,100	11,365,306	1,522,816,800	18,289,691
SHELLFISH, ETC.				
Crabs	3,792,700	313,237	7,004,000	462,413
Crawfish			143,600	14,360
Sea crawfish or spiny lobster	1,182,700	180,264	1,182,700	180,264
Shrimp	1,784,600	27,406	1,844,500	31,599
Abalone	644,700	104,742	644,700	104,742
Clams:				
Hard	28,600	5,452	711,600	41,734
Pismo	35,200	7,373	35,200	7,373
Razor			586,400	83,781
Soft	71,100	15,639	71,100	15,639
Mixed			38,500	1,907
Octopus	30,400	1,964	96,100	4,157
Oysters:				
Eastern, market	89,100	38,981	89,600	39,156
Japanese, market	6,700	1,675	4,956,300	359,475
Native, market	5,000	2,728	330,500	187,034
Scallops, bay			12,200	3,051
Squid	1,530,500	31,722	1,536,100	31,918
Turtles	3,700	185	3,700	185
Total	9,205,000	731,368	19,286,800	1,568,788
WHALE PRODUCTS				
Whale meat	2,044,000	40,880	2,044,000	40,880
Whale oil	1,954,400	50,700	1,954,400	50,700
Total	3,998,400	91,580	3,998,400	91,580
Grand total	1,406,175,500	12,188,254	1,546,102,000	19,950,059

Industries related to the fisheries of the Pacific Coast States, 1934

OPERATING UNITS, SALARIES, AND WAGES

Item	Washington	Oregon	California	Total
Transporting:	*Number*	*Number*	*Number*	*Number*
Persons engaged	212	48	3	263
Vessels:				
Steam			1	1
Net tonnage			32	32
Motor	87	24		111
Net tonnage	2,131	299		2,430
Total vessels	87	24	1	112
Total net tonnage	2,131	299	32	2,462
Wholesale and manufacturing:				
Establishments	120	59	144	323
Persons engaged:				
Proprietors	90	63	205	358
Salaried employees	215	66	535	816
Wage earners:				
Average for season	3,871	792	7,383	12,046
Average for year	1,256	386	3,417	5,059
Paid to salaried employees	$491,405	$168,098	$1,529,979	$2,189,482
Paid to wage earners	$1,234,892	$463,127	$3,143,943	$4,841,962
Total salaries and wages	$1,726,297	$631,225	$4,673,922	$7,031,444
Fishermen manufacturing	70		125	195

Industries related to the fisheries of the Pacific Coast States, 1934—Continued

PRODUCTS MANUFACTURED

Item	Washington		Oregon		California	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing firms:						
Barracuda, fresh fillets—pounds					560,000	$67,200
Cabrilla, fresh fillets—do					120,000	14,650
Cod, salted:						
Green, in process, partly boned [1]—pounds	1,904,465	$129,355			(2)	(2)
Boneless, including absolutely boneless—pounds	988,467	135,771			(2)	(2)
Flounders, fresh fillets—do	122,495	13,419	(2)	(2)	1,807,500	293,875
Grayfish, fresh fillets—do					130,000	13,000
Halibut, frozen steaks—do	117,000	16,500				
"Lingcod", fresh fillets—do	(2)	(2)	(2)	(2)	125,000	15,000
Mackerel:						
Canned—standard cases					1,250,551	3,087,804
Meal—tons					3,323	98,392
Oil—gallons					157,571	25,533
Pilchards:						
Canned "sardines"—standard cases					1,970,047	5,481,391
Meal—tons					89,280	2,878,269
Oil—gallons					20,845,171	4,413,609
Rockfishes, fresh fillets—pounds			(2)	(2)	930,000	119,150
Sablefish:						
Fresh fillets—do	(2)	(2)			450,000	45,000
Salted—do	283,806	16,525	(2)	(2)	(2)	(2)
Kippered—do	317,097	36,738			(2)	(2)
Salmon:						
Frozen steaks—do	15,100	2,229				
Salted:						
Mild cured [1]—do	3,359,902	629,335	1,595,625	$320,502	1,340,625	275,533
Eggs for caviar—do	158,078	20,141				
Kippered—do	1,696,345	268,252	(2)	(2)		
Smoked—do	104,667	19,288	47,731	11,835	247,118	94,135
Canned:						
Blueback, red or sockeye—standard cases	355,169	3,630,745	5,142	80,201		
Chinook or king—do	75,050	771,280	196,894	2,038,422		
Chum or keta—do	88,250	347,697	26,423	99,799		
Humpback or pink—do	2,630	14,343				
Silver or coho—do	71,867	509,178	63,699	560,586		
Steelhead trout—do	3,114	19,879	12,968	133,817		
Eggs for bait—do	4,060	106,281	984	22,172		
Meal—tons	950	23,560	(2)	(2)		
Oil—gallons	125,984	19,147	42,754	24,458		
Sea bass:						
Black, fresh fillets—pounds					485,000	54,000
White, fresh fillets—do					120,000	18,900
Shad:						
Mild cured—do					52,800	3,200
Canned—standard cases	954	2,767	7,279	21,691		
Roe, canned—do	(2)	(2)	1,500	42,750	(2)	(2)
Sheepshead, fresh fillets—pounds					44,000	6,180
Swordfish, fresh fillets—do					110,000	32,400
Tuna and tunalike fishes:						
Canned:						
Albacore—standard cases					90,599	512,319
Bluefin—do					312,198	1,420,733
Bonito—do					58,083	234,598
Striped—do					226,359	1,034,799
"Tonno"—do					167,484	1,082,318
Yellowfin—do					1,100,772	5,680,503
Yellowtail—do					11,448	44,272
Meal—tons					6,705	191,015
Totuava, fresh fillets—pounds					365,000	54,750
Crabs, meat, packaged, fresh cooked—pounds	153,690	57,497	267,624	77,754		
Lobsters, meat, packaged, fresh cooked—pounds					860,000	221,000
Abalone steaks—do					627,300	183,990
Clams, hard:						
Fresh shucked—gallons	2,849	3,311	(2)	(2)		
Canned:						
Whole—standard cases	12,977	52,361				
Minced—do	9,685	40,542				
Juice—do	2,322	4,793				
Shells, crushed for poultry feed—tons	1,735	16,662				

See footnotes at end of table.

Industries related to the fisheries of the Pacific Coast States, 1934—Continued

PRODUCTS MANUFACTURED—Continued

Item	Washington		Oregon		California	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing firms—Continued.						
Clams, razor:						
Canned:						
Whole—standard cases	558	$5,064				
Minced—do	23,068	198,624	654	$4,617		
Oysters:						
Japanese:						
Fresh shucked—gallons	219,637	281,782	44,966	69,594	[2]	[2]
Canned—standard cases	68,497	317,887	[2]	[2]		
Native, fresh shucked—gallons	23,967	137,061	7,796	47,352	[2]	[2]
Shell products, poultry feed—tons	[2]	[2]	[2]	[2]	16,215	$85,589
Unclassified:						
Packaged—pounds	[3] 87,200	[3] 15,757	[4] 20,625	[4] 3,000	[5] 396,332	[5] 97,050
Salted—do	[6]	[6]	[6]	[6]	[7] 1,417,562	[7] 119,744
Smoked—do	[6]	[6]	[8] 26,579	[8] 4,828	[9] 391,735	[9] 67,037
Canned, cat and dog food—standard cases					287,752	795,590
Canned, other—do	[10] 1,178	[10] 5,110	[6]	[6]	[11] 3,576	[11] 31,483
Meal and scrap—tons	[6]	[6]	[6]	[6]	[12] 2,018	[12] 52,571
Oil—gallons	[6]	[6]			[13] 315,346	[13] 66,360
Miscellaneous		[14] 111,887		[15] 22,776		[16] 428,024
Total		7,980,768		3,586,154		29,440,966
By fishermen:						
Cod, green salted—pounds	3,225,216	145,134			1,870,485	74,800
Cod, tongues—do					2,600	130
Shrimp:						
Dried—do					90,301	13,545
Meal or bran—do					194,000	1,940
Total	2,225,216	145,134			2,157,386	90,415
Grand total		8,125,902		3,586,154		29,531,381

[1] This item is usually an intermediate product and although included in the total, may be shown in its final stage of processing in this or another State.

[2] The production of this item has been included under "Unclassified products."

[3] Includes fresh fillets of "lingcod" and sablefish; frozen fillets of flounders; fresh halibut cheeks; packaged cooked and peeled shrimp; and fresh-shucked bay scallops.

[4] Includes fresh fillets of flounders, "lingcod", and rockfishes; and fresh-shucked hard clams.

[5] Includes packaged cooked and peeled shrimp; and fresh-shucked Eastern, Japanese, and native oysters.

[6] This item has been included under "Miscellaneous."

[7] Includes salted barracuda, herring, mackerel, pilchards, sablefish, yellowtail, and black and white sea bass; boneless salt cod; and green salt cod in process, partly boned.

[8] Includes smoked shad and smelt, and kippered salmon and sturgeon.

[9] Includes smoked bonito, chubs, herring, mackerel, and yellowtail; and kippered sablefish.

[10] Includes canned herring for bait; shad roe; sturgeon caviar; hard clam chowder, cocktail, and nectar; and razor clam juice.

[11] Includes canned fish chowder, gefilte fish, shad roe, squid, and tuna cocktail.

[12] Includes shrimp meal or bran and miscellaneous fish meal.

[13] Includes tuna, whale, sperm, and miscellaneous oil.

[14] Includes kippered herring and herring bloaters; spiced herring; salted salmon bellies; salmon-egg meal; crushed oyster shell for poultry feed; and miscellaneous liver oil.

[15] Includes salted sablefish; canned crabs and Japanese oysters; salmon and salmon-egg meal; crushed oyster shell for poultry feed; and marine-shell novelties.

[16] Includes oyster-shell lime; marine-shell novelties; liquid glue; and kelp products.

NOTE.—The total value of manufactured products in the Pacific Coast States was as follows: By manufacturing establishments, $41,007,888; and by fishermen, $235,549. Some of the above products may have been imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State. All of the persons engaged in the preparation of fishermen's manufactured products have also been included as fishermen.

WASHINGTON

Fisheries of Washington, 1934

CATCH: BY DISTRICTS

Species	Puget Sound district		Coastal district		Columbia River district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp					99,600	$2,988
Cod [1]	10,403,900	$145,134				
Flounders:						
"Sole"	954,600	32,261			7,100	232
Other	56,500	1,220				
Halibut	23,181,200	1,669,796	3,800	$232	91,000	7,733
Herring	242,000	1,531				
"Lingcod"	1,067,700	34,563	28,700	772	9,200	268
Perch	62,000	1,681				
Rockfishes	540,100	19,488	20,100	402	6,200	151
Sablefish	2,235,400	85,050			7,400	236
Salmon:						
Blueback, red or sockeye	23,530,600	1,491,629	349,800	31,093	209,200	20,920
Chinook or king	7,591,600	568,654	1,574,100	88,425	7,836,900	533,660
Chum or keta	7,732,400	181,559	1,359,300	20,390	631,900	8,152
Humpback or pink	190,500	5,715				
Silver or coho	8,243,100	358,864	2,211,500	96,407	1,103,000	49,379
					171,100	5,133
Shad					2,199,100	22,102
Smelt	283,600	13,471	89,700	3,588	1,316,600	74,782
Steelhead trout			54,700	2,406	31,000	878
Sturgeon						
Total	86,315,200	4,610,616	5,691,700	243,715	13,719,300	726,614
SHELLFISH						
Crabs	281,200	15,888	843,700	47,936		
Shrimp	59,900	4,193				
Squid	5,600	196				
Clams:						
Hard:						
Butter	309,200	15,053				
Little neck	373,800	21,229				
Razor			547,800	78,260		
Octopus	65,700	2,193				
Oysters:						
Eastern, market			500	175		
Japanese, market	1,425,300	88,081	3,499,800	267,978		
Native market	308,900	176,077	8,800	3,872		
Scallops, bay	12,200	3,051				
Total	2,841,800	325,961	4,900,600	398,221		
Grand total	89,157,000	4,936,577	10,592,300	641,936	13,719,300	726,614

[1] The cod were taken off Alaska.

Fisheries of the Puget Sound district of Washington, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines	Haul seines	Gill nets		Lines		Pound nets	Brush weirs
			Drift	Set	Trawl, set, and hand	Troll		
Fishermen;	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	1,776	18			1,172	195	19	
On boats and shore	21	202	308	3	88	336	238	10
Total	1,797	220	308	3	1,260	531	257	10
Vessels:								
Motor	223	5			150	111	7	
Net tonnage	5,179	44			4,276	953	120	
Sail					3			
Net tonnage					1,346			
Total vessels	223	5			153	111	7	
Total net tonnage	5,179	44			5,622	953	120	
Boats:								
Motor	4	45	296	3	83	247	25	
Other		20	2		35		112	5
Accessory boats	227				79			
Apparatus:								
Number	227	65	298	3	25,557	1,790	112	5
Length, yards	135,746	5,821						
Square yards			390,976	810				
Hooks					522,714	8,055		

Fisheries of the Puget Sound district of Washington, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Dip nets	Drag bag nets	Reef nets	Beam trawls	Otter trawls	Traps, crab	Tongs and rakes	Shovels	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen;									
On vessels				18	40				3,118
On boats and shore	9	100	24	4	18	92	242	392	1,915
Total	9	100	24	22	58	92	242	392	5,033
Vessels:									
Steam				1					1
Net tonnage				23					23
Motor				5	16				492
Net tonnage				48	249				10,651
Sail									3
Net tonnage									1,346
Total vessels				6	16				496
Total net tonnage				71	249				12,020
Boats:									
Motor	6	32	6	2	9	88	40		854
Other	3	11	12			4	128		328
Accessory boats									306
Apparatus:									
Number	9	37	6	8	25	2,576	160	392	
Length, yards		2,959							
Yards at mouth				42	304				

CATCH: By gear

Species	Purse seines		Haul seines		Gill nets			
					Drift		Set	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"			1,600	$54			100	$3
Other			5,700	123				
Herring			2,100	21				
"Lingcod"							3,400	102
Perch			43,800	1,205				
Rockfishes			4,300	119			100	3
Salmon:[3]								
Blueback, red or sockeye	14,086,500	$892,810	9,600	672	33,800	$2,143	2,600	165
Chinook or king	461,800	20,991	5,200	423	434,700	27,343		
Chum or keta	6,783,600	158,764			362,900	9,072		
Humpback or pink	150,700	4,522			300	9		
Silver or coho	4,500,600	157,523	200	10	327,500	15,851		
Smelt			170,000	8,075				
Total	25,983,200	1,234,610	242,500	10,702	1,159,200	54,418	6,200	273
SHELLFISH								
Squid			5,300	185				
Grand total	25,983,200	1,234,610	247,800	10,887	1,159,200	54,418	6,200	273

Species	Lines				Pound nets		Brush weirs	
	Trawl, set, and hand[1]		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod[2]	10,403,900	$145,134						
Flounders, "sole"	700	20						
Halibut	23,144,000	1,667,085	35,100	$2,580				
Herring							236,400	$1,466
"Lingcod"	796,400	27,097	34,500	759				
Perch	900	31						
Rockfishes	426,400	16,389	3,800	76				
Sablefish	2,235,200	85,043						

[1] In addition, the vessels in the Pacific coast halibut fleet landed about 540,000 pounds of halibut, sablefish, and "lingcod" livers at Seattle, which were valued at $111,000.

[2] The cod were taken off Alaska.

Fisheries of the Puget Sound district of Washington, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines				Pound nets		Brush weirs	
	Trawl, set, and hand		Troll					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:[3]								
Blueback, red or sockeye					9,388,300	$595,218		
Chinook or king			2,963,700	$251,618	3,725,300	268,222		
Chum or keta					577,700	13,518		
Humpback or pink			200	6	39,300	1,178		
Silver or coho			2,196,100	126,495	1,213,800	58,748		
Total	37,007,500	$1,940,799	5,233,400	381,534	14,944,400	936,884	236,400	$1,466
SHELLFISH								
Octopus	64,900	2,165						
Grand total	37,072,400	1,942,964	5,233,400	381,534	14,944,400	936,884	236,400	1,466

Species	Dip nets		Drag bag nets		Reef nets		Beam trawls	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Herring	3,400	$43	100	$1				
Perch			12,800	329				
Rockfishes			400	11				
Salmon:[3]								
Blueback, red or sockeye					9,800	$621		
Chinook or king					900	57		
Chum or keta					8,200	205		
Silver or coho					4,900	237		
Smelt			113,600	5,396				
Total	3,400	43	126,900	5,737	23,800	1,120		
SHELLFISH								
Shrimp							59,900	$4,193
Squid			300	11				
Scallops, bay[7]							12,200	3,051
Total			300	11			72,100	7,244
Grand total	3,400	43	127,200	5,748	23,800	1,120	72,100	7,244

Species	Otter trawls		Traps, crab		Tongs and rakes		Shovels	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"	952,200	$32,184						
Other	50,800	1,097						
Halibut	2,100	131						
"Lingcod"	233,400	6,605						
Perch	4,500	116						
Rockfishes	105,100	2,890						
Sablefish	200	7						
Total	1,348,300	43,030						
SHELLFISH								
Crabs[4]			281,200	$15,888				
Clams, hard:[5]								
Butter							309,200	$15,053
Little neck							373,800	21,229
Octopus	800	28						
Oysters:[6]								
Japanese, market					1,425,300	$88,081		
Native, market					308,900	176,077		
Total	800	28	281,200	15,888	1,734,200	264,158	683,000	36,282
Grand total	1,349,100	43,058	281,200	15,888	1,734,200	264,158	683,000	36,282

[3] Statistics of the catch of salmon except those taken by troll lines are reported to the State in number rather than pounds. The factors used in the above table for converting number of salmon to weight in pounds were as follows: Blueback, red or sockeye 7.1 pounds; chinook or king 22 pounds; chum or keta 10 pounds, for all gear, except purse seines, for which a factor of 9.4 pounds was used; humpback or pink pounds; and silver or coho 8 pounds.

[4] The weight of crabs shown is based on an average of 20 pounds per dozen.

[5] Statistics on hard clams as used in this table are based on yields of 28 percent edible meats for butte clams and 24 percent for little neck clams.

[6] Statistics on oysters are based on yields of 16 percent edible meats for native oysters and 14 percent fo Japanese oysters.

[7] The weight of bay scallops is based on a yield of 15 percent edible meat.

Fisheries of the coastal district of Washington, 1934

OPERATING UNITS: By gear

Item	Gill nets		Lines, troll	Pound nets	Dip nets	Drag bag nets	Traps, crab	Tongs and rakes	Dredges	Shovels	Total, exclusive of duplication
	Drift	Set									
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:											
On vessels			21				18		8		47
On boats and shore	140	173	136	60	41	36	76	220		2, 394	3, 044
Total	140	173	157	60	41	36	94	220	8	2, 394	3, 091
Vessels:											
Motor			12				9		2		21
Net tonnage			93				68		13		156
Boats:											
Motor	126	92	96	43			49	46			448
Other		39		32		6		105			180
Apparatus:											
Number	126	193	540	99	41	6	2, 605	145	4	2, 394	
Length, yards						390					
Square yards	225, 400	53, 259									
Yards at mouth									6		
Hooks			2, 430								

CATCH: By gear

Species	Gill nets				Lines, troll	
	Drift		Set			
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut					3, 800	$232
"Lingcod"					28, 700	772
Rockfishes					20, 100	402
Salmon: [1]						
Blueback, red or sockeye			336, 500	$29, 914		
Chinook or king	394, 000	$13, 790	223, 400	7, 819	723, 000	58, 636
Chum or keta	192, 200	2, 883	333, 400	5, 001		
Silver or coho	385, 300	13, 486	405, 900	14, 206	883, 800	49, 937
Steelhead trout			54, 700	2, 406		
Total	971, 500	30, 159	1, 353, 900	59, 346	1, 659, 400	109, 979

Species	Pound nets		Dip nets		Drag bag nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon: [1]						
Blueback, red or sockeye			13, 300	$1, 179		
Chinook or king	233, 700	$8, 180				
Chum or keta	833, 700	12, 506				
Silver or coho	536, 500	18, 778				
Smelt			29, 700	1, 188	60, 000	$2, 400
Total	1, 603, 900	39, 464	43, 000	2, 367	60, 000	2, 400

Species	Traps, crab		Dredges, tongs, and rakes		Shovels	
SHELLFISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs [2]	843, 700	$47, 936				
Clams, razor [3]					547, 800	$78, 260
Oysters: [4]						
Eastern, market			500	$175		
Japanese, market			3, 499, 800	267, 978		
Native, market			8, 800	3, 872		
Total	843, 700	47, 936	3, 509, 100	272, 025	547, 800	78, 260

[1] Statistics of the catch of salmon except those taken by troll lines are reported to the State in number rather than pounds. The factors used in the above table for converting number of salmon to weight in pounds were as follows: Blueback, red or sockeye, 4.5 pounds; chinook or king, 22 pounds; chum or keta, 10 pounds; silver or coho, 10 pounds; and steelhead trout, 10 pounds.

[2] The weight of crabs as shown in this table is based on an average of 22 pounds per dozen.

[3] The weight of razor clams shown is based on a yield of 42 percent edible meats.

[4] The statistics on oysters used in this table are based on yields of 14 percent edible meats for Japanese and native oysters, and 13 percent for eastern oysters.

Fisheries of the Columbia River district of Washington, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Lines		Pound nets	Fish wheels	Dip nets	Total, exclusive of duplication
		Drift	Set	Trawl and set	Troll				
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels				8					8
On boats and shore	264	548	45	9	22	188	20	178	1,152
Total	264	548	45	17	22	188	20	178	1,160
Vessels:									
Motor				2					2
Net tonnage				34					34
Boats:									
Motor	16	394	38	9	15	94		88	602
Other	24		7			43		6	78
Apparatus:									
Number	24	394	96	309	60	211	27	178	
Length, yards	7,560								
Square yards		1,095,320	24,384						
Hooks				7,200	240				

CATCH: BY GEAR

Species	Haul seines		Gill nets				Lines, trawl and set	
			Drift		Set			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	99,600	$2,988					7,100	$232
Flounders, "sole"							91,000	7,733
Halibut							9,200	268
"Lingcod"							6,200	151
Rockfishes							7,400	236
Sablefish								
Salmon:								
Blueback, red or sockeye	31,600	3,160	26,400	$2,640	1,400	$140		
Chinook or king	1,843,400	126,642	3,005,700	206,492	53,100	2,920		
Chum or keta	1,000	13	406,200	5,240	21,900	283		
Silver or coho	20,300	792	448,900	19,931	8,100	300		
Shad	55,600	1,668	43,100	1,293	100	3		
Smelt			205,000	6,150				
Steelhead trout	214,300	11,786	268,400	15,433	2,600	147		
Sturgeon	1,000	17	11,500	315	2,300	72	2,100	63
Total	2,266,800	147,066	4,415,200	257,494	89,500	3,865	123,000	8,683

Species	Lines, troll		Pound nets		Fish wheels		Dip nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:								
Blueback, red or sockeye			49,400	$4,940	81,600	$8,160	18,800	$1,880
Chinook or king	30,200	$2,658	2,515,600	172,822	195,200	13,410	193,700	8,716
Chum or keta			202,200	2,608			600	8
Silver or coho	103,200	5,366	522,500	22,990				
Shad			68,100	2,043	4,200	126		
Smelt							1,994,100	15,952
Steelhead trout	200	12	767,200	44,114	30,900	1,591	33,000	1,699
Sturgeon			5,500	153	8,600	258		
Total	133,600	8,036	4,130,500	249,670	320,500	23,545	2,240,200	28,255

OREGON

Fisheries of Oregon, 1934

CATCH: BY DISTRICTS

Species	Columbia River district		Coastal district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Carp	6,000	$180		
Flounders:				
"Sole"	19,100	835	3,700	$84
Other	300	18	48,000	714
Halibut	382,000	29,729	118,900	8,469
Herring			37,400	416
"Lingcod"	62,600	2,326	67,100	1,332
Perch			8,700	146
Rockfishes	34,800	1,025	18,100	469
Sablefish	78,600	2,408	23,800	583
Salmon:				
Blueback, red or sockeye	207,000	20,700		
Chinook or king	10,820,400	747,453	1,289,600	77,963
Chum or keta	542,200	7,015	429,900	4,513
Silver or coho	2,427,300	120,738	4,491,100	188,360
Shad	488,500	14,655	416,700	9,377
Smelt	564,000	14,100	200	12
Steelhead trout	1,168,200	65,858	290,700	21,101
Striped bass			23,700	1,405
Sturgeon	48,100	1,318	800	26
Tuna, albacore	500	62	500	50
Total	16,849,600	1,028,420	7,268,900	315,020
SHELLFISH				
Crabs			2,086,400	85,352
Crawfish	143,600	14,360		
Clams:				
Razor			38,600	5,521
Mixed			38,500	1,907
Oysters:				
Japanese, market			24,500	1,741
Native, market			7,800	4,357
Total	143,600	14,360	2,195,800	98,878
Grand total	16,993,200	1,042,780	9,464,700	413,898

Fisheries of the Columbia River district of Oregon, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Lines		Pound nets	Dip nets	Traps, crawfish	Total, exclusive of duplication
		Drift	Set	Trawl and set	Troll				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				11	28				39
On boats and shore	455	1,180	68	40	175	30	133	32	2,068
Total	455	1,180	68	51	203	30	133	32	2,107
Vessels:									
Motor				3	16				19
Net tonnage				48	128				176
Boats:									
Motor	18	871	56	37	144	15	5	25	1,145
Other	33		12	3		7		7	59
Apparatus:									
Number	33	871	137	434	796	27	133	1,920	
Length, yards	17,255								
Square yards		2,754,973	38,497						
Hooks				12,125	3,582				

Fisheries of the Columbia River district of Oregon, 1934—Continued

CATCH: BY GEAR

Species	Haul seines		Gill nets				Lines	
			Drift		Set		Trawl and set	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	6,000	$180						
Flounders:								
"Sole"							19,100	$835
Other							300	18
Halibut							382,000	29,729
"Lingcod"							62,600	2,326
Rockfishes							34,800	1,025
Sablefish							78,600	2,408
Salmon:								
Blueback, red or sockeye	57,900	5,790	133,700	$13,370	4,400	$440		
Chinook, or king	1,850,400	127,122	7,787,300	534,987	37,700	2,074		
Chum or keta	22,100	285	488,600	6,303	10,100	130		
Silver or coho	67,800	2,644	400,400	17,778	4,700	174		
Shad	261,400	7,842	226,600	6,798				
Smelt			564,000	14,100				
Steelhead trout	429,500	23,622	459,900	26,344	14,900	843		
Sturgeon	700	19	22,800	625	4,500	123	18,400	504
Tuna, albacore							500	62
Total	2,695,800	167,504	10,083,300	620,305	76,300	3,784	596,300	36,907

Species	Lines—Continued		Pound nets		Dip nets		Traps, crawfish	
	Troll							
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:								
Blueback, red or sockeye			7,000	$700	4,000	$400		
Chinook, or king	504,400	$44,387	424,300	29,149	216,300	9,734		
Chum or keta			21,400	297				
Silver or coho	1,768,500	91,962	185,900	8,180				
Shad			500	15				
Steelhead trout	600	35	199,200	11,713	64,100	3,301		
Sturgeon	100	3	400	11	1,200	33		
Total	2,273,600	136,387	838,700	50,065	285,600	13,468		
SHELLFISH								
Crawfish, fresh water							143,600	$14,360
Grand total	2,273,600	136,387	838,700	50,065	285,600	13,468	143,600	14,360

Fisheries of the coastal district of Oregon, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Lines		Otter trawls	Traps, crab	Tongs and rakes	Shovels	Total, exclusive of duplication
		Drift	Set	Trawl and set	Troll					
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				5	11	3				16
On boats and shore	10	515	330	32	162		292	13	136	1,438
Total	10	515	330	37	173	3	292	13	136	1,454
Vessels:										
Motor				1	7	1				8
Net tonnage				16	71	16				87
Boats:										
Motor	3	473	204	26	121		275	4		954
Other	3		120	6			17	9		131
Apparatus:										
Number	3	515	795	183	845	1	8,760	13	136	
Length, yards	466									
Square yards		630,875	254,400							
Yards at mouth						20				
Hooks				6,425	3,802					

Fisheries of the coastal district of Oregon, 1934—Continued

CATCH: BY GEAR

Species	Haul seines		Gill nets		Lines			
					Trawl and set		Troll	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"					2,500	$63	500	$10
Other	20,100	$302	3,600	$36	13,700	213		
Halibut					109,100	7,798	9,200	632
Herring	12,400	166	25,000	250				
"Lingcod"					29,400	600	35,300	642
Perch	6,000	95	2,700	51				
Rockfishes					14,900	391	3,100	75
Sablefish					23,800	583		
Salmon:								
Chinook or king			1,076,400	59,203			213,200	18,760
Chum or keta			429,900	4,513				
Silver or coho			2,657,300	93,004			1,833,800	95,356
Shad			416,700	9,377				
Smelt			200	12				
Steelhead trout			290,700	21,101				
Striped bass			23,700	1,405				
Sturgeon			800	26				
Tuna, albacore							500	50
Total	38,500	563	4,927,000	188,978	193,400	9,648	2,095,600	115,525

Species	Otter trawls		Traps, crab		Tongs and rakes		Shovels	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"	700	$11						
Other	10,600	163						
Halibut	600	39						
"Lingcod"	2,400	90						
Rockfishes	100	3						
Total	14,400	306						
SHELLFISH								
Crabs			2,086,400	$85,352				
Clams:								
Razor [1]							38,600	$5,521
Mixed [2]							38,500	1,907
Oysters:								
Japanese, market					24,500	$1,741		
Native, market					7,800	4,357		
Total			2,086,400	85,352	32,300	6,098	77,100	7,428
Grand total	14,400	306	2,086,400	85,352	32,300	6,098	77,100	7,428

[1] Statistics on razor clams used in this table show the quantity of edible meats based on 42 percent of the ound weight.

[2] Mixed clams consist principally of eastern soft-shelled clams. The quantity shown is that of the edible neats and equals 21 percent of the round weight.

CALIFORNIA

Fisheries of California, 1934

CATCH: BY DISTRICTS

Species	Northern district		San Francisco district [1]		Monterey district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			67,000	$1,004	127,400	$1,930
Carp			158,000	2,140		
Catfish			184,900	22,647		
Cod [1]			6,036,400	76,100		
Flounders:						
"California halibut"			28,100	2,352	35,900	2,665
"Sole"	3,219,900	$160,995	4,293,100	243,449	934,800	31,138
Other	488,600	16,981	716,800	31,737	156,300	5,845
Flyingfish						
Grayfish	4,100	41	96,600	966	6,100	61
Groupers						
Hake	800	8	48,200	482	7,700	77
Halibut	1,023,000	64,192				
Hardhead			147,400	6,882		
Herring	3,500	26	755,700	4,087	11,200	112
Horse mackerel					138,500	3,011
Kingfish			14,000	421	244,200	7,699
"Lingcod"	430,800	11,090	323,900	12,048	100,300	4,615
Mackerel			3,700	111	5,123,900	41,298
Perch	5,600	152	113,500	7,945	29,500	1,136
Pilchard or sardine			367,800,800	1,359,138	478,923,400	1,774,968
Pompano					100	53
Rockfishes	400,300	10,152	544,200	24,644	1,775,200	55,921
Sablefish	794,600	23,664	158,400	3,961	506,100	9,369
Salmon	2,769,300	211,539	1,264,100	89,203	286,200	28,829
Sculpin			800	8	4,400	45
Sea bass, white			300	28	2,400	260
Shad			872,600	28,288		
Skates	5,500	68	168,300	2,103	39,600	485
Smelt	28,900	965	266,600	13,050	162,700	6,893
Splittail			55,000	662		
Squawfish			1,600	53		
Striped bass			801,300	47,794		
Suckers			63,000	701		
Tomcod	300	6	600	12		
Tuna, albacore					800	60
Whitebait	76,000	3,424	10,700	534	19,300	1,229
Other fish	111,000	2,463	90,200	2,254	23,000	1,221
Total	9,362,200	505,766	385,085,800	1,984,804	488,659,000	1,978,920
SHELLFISH						
Crabs	110,800	7,053	3,421,800	293,593	235,500	11,798
Shrimp			1,783,700	27,222	900	184
Abalone					557,400	95,914
Clams:						
Hard	9,900	903	14,600	3,595		
Pismo					4,800	1,088
Soft	100	11	71,000	15,628		
Octopus	700	35	10,600	471	19,000	1,443
Oysters, market:						
Eastern			89,100	38,981		
Japanese					6,700	1,675
Native			5,000	2,728		
Squid					1,486,400	30,673
Total	121,500	8,002	5,395,800	382,218	2,310,700	142,775
WHALE PRODUCTS						
Whale meat			2,044,000	40,880		
Whale oil			1,954,400	50,700		
Total			3,998,400	91,580		
Grand total	9,483,700	513,768	394,480,000	2,458,602	490,969,700	2,121,695

[1] The catch of cod was taken off Alaska.

NOTE.—The catch of pilchard includes 232,322,700 pounds, valued at $858,274, which were delivered to floating reduction plants. The catch in previous years delivered to these plants was included.

Fisheries of California, 1934—Continued

CATCH: BY DISTRICTS—Continued

Species	San Pedro district					
	Off California		Off Latin America		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	63,100	$788			63,100	$788
Barracuda	1,575,800	57,275	143,000	$12,142	1,718,800	69,417
Cabrilla			168,200	7,077	168,200	7,077
Corbina			1,000	62	1,000	62
Flounders:						
"California halibut"	531,500	44,382	102,200	7,750	633,700	52,132
"Sole"	517,400	15,052			517,400	15,052
Other	15,000	2,128			15,000	2,128
Flyingfish	26,400	885			26,400	885
Grayfish	384,800	11,080	1,100	32	385,900	11,112
Groupers			39,900	2,075	39,900	2,075
Hake	200	5			200	5
Herring	400	20			400	20
Horse mackerel	1,441,200	11,986			1,441,200	11,986
Kingfish	371,500	6,542			371,500	6,542
"Lingcod"	1,500	43	100	3	1,600	46
Mackerel	97,151,900	616,543			97,151,900	616,543
Marlin	19,900	984	100	4	20,000	988
Mullet	3,700	175	1,000	29	4,700	204
Perch	43,300	2,656			43,300	2,656
Pilchard or sardine	285,180,800	1,030,282			285,180,800	1,030,282
Pompano	4,400	1,853			4,400	1,853
Rock bass	216,100	12,388	25,100	1,421	241,200	13,809
Rockfishes	1,406,500	52,731	14,100	535	1,420,600	53,266
Rudderfishes	32,300	1,389			32,300	1,389
Sablefish	643,700	19,817			643,700	19,817
Sculpin	58,600	4,020			58,600	4,020
Sea bass:						
Black	17,600	794	475,200	22,164	492,800	22,958
White	400,700	24,801	122,800	9,100	523,500	33,901
Sheepshead	137,500	4,601	200	7	137,700	4,608
Skates	14,500	268			14,500	268
Smelt	242,100	8,451	100	4	242,200	8,455
Spanish mackerel			3,200	152	3,200	152
Swordfish	193,100	28,050			193,100	28,050
Tuna and tunalike fishes:						
Albacore	119,000	9,143			119,000	9,143
Bluefin	17,940,200	826,288	16,500	1,262	17,956,700	827,550
Bonito	2,001,000	49,768	34,300	931	2,035,300	50,699
Skipjack or striped tuna			3,808,900	152,481	3,808,900	152,481
Yellowfin	200	14	19,451,800	974,688	19,452,000	974,702
Whitefish	31,800	2,197	18,100	910	49,900	3,107
Yellowtail	126,500	5,582	1,022,100	40,798	1,148,600	46,380
Other fish	8,800	282	1,100	53	9,900	335
Total	410,923,000	2,853,263	25,450,100	1,233,680	436,373,100	4,086,943
SHELLFISH						
Crabs	24,600	793			24,600	793
Sea crawfish or spiny lobster	295,900	47,238	111,100	21,001	407,000	68,239
Abalone	87,300	8,828			87,300	8,828
Clams:						
Hard	4,100	954			4,100	954
Pismo	30,400	6,285			30,400	6,285
Octopus	100	15			100	15
Squid	39,700	921			39,700	921
Turtles			300	23	300	23
Total	482,100	65,034	111,400	21,024	593,500	86,058
Grand total	411,405,100	2,918,297	25,561,500	1,254,704	436,966,600	4,173,001

Fisheries of California, 1934—Continued

CATCH: BY DISTRICTS—Continued

Species	San Diego district					
	Off California		Off Latin America		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	225,400	$9,637	238,600	$15,805	464,000	$25,442
Cabrilla			163,500	6,451	163,500	6,451
Flounders:						
"California halibut"	53,000	3,460	286,300	20,500	339,300	23,960
"Sole"	2,400	206			2,400	206
Grayfish	29,000	207	4,600	48	33,600	255
Groupers			21,500	1,001	21,500	1,001
Herring	28,100	273	2,700	21	30,800	294
Horse mackerel	1,600	16			1,600	16
Kingfish	4,600	110			4,600	110
Mackerel	11,302,800	60,640	266,200	1,536	11,569,000	62,176
Marlin	41,400	1,669	3,400	142	44,800	1,811
Mullet	14,300	591			14,300	591
Perch	500	17	300	6	800	23
Pilchard or sardine	4,051,300	13,301	2,500	39	4,053,800	13,340
Rock bass	115,400	4,944	55,800	1,944	171,200	6,888
Rockfishes	285,600	10,901	182,700	8,068	468,300	18,969
Sablefish	1,300	22	1,100	23	2,400	45
Sculpin	7,400	359			7,400	359
Sea bass:						
Black	36,100	931	329,900	13,894	366,000	14,825
White	65,300	4,094	260,100	18,176	325,400	22,270
Sheepshead	4,300	152	1,500	41	5,800	193
Skates	4,400	45			4,400	45
Smelt	28,300	980	1,300	71	29,600	1,051
Spanish mackerel			3,700	73	3,700	73
Swordfish	64,800	8,262	6,100	832	70,900	9,094
Tuna and tunalike fishes:						
Bluefin	351,500	16,214	49,600	2,318	401,100	18,532
Bonito	1,002,000	22,464	165,400	3,713	1,167,400	26,177
Skipjack or striped tuna			11,021,300	441,043	11,021,300	441,043
Yellowfin	19,300	970	41,441,900	2,077,557	41,461,200	2,078,52
Whitefish	15,900	734	27,400	1,364	43,300	2,098
Yellowtail	84,100	2,192	1,114,500	30,816	1,198,600	33,008
Total	17,840,100	163,391	55,651,900	2,645,482	73,492,000	2,808,873
SHELLFISH						
Sea crawfish or spiny lobster	70,700	11,111	705,000	100,914	775,700	112,025
Squid	4,400	128			4,400	128
Turtles			3,400	162	3,400	162
Total	75,100	11,239	708,400	101,076	783,500	112,315
Grand total	17,915,200	174,630	56,360,300	2,746,558	74,275,500	2,921,188

CATCH: BY WATERS

Species	Off California [1]		Off Latin America	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	257,500	$3,722		
Barracuda	1,801,200	66,912	381,600	$27,947
Cabrilla			331,700	13,528
Carp	158,000	2,140		
Catfish	184,900	22,647		
Cod [1]	6,036,400	76,100		
Corbina			1,000	62
Flounders:				
"California halibut"	648,500	52,859	388,500	28,250
"Sole"	8,967,600	450,840		
Other	1,376,700	56,691		
Flyingfish	26,400	885		
Grayfish	520,600	12,355	5,700	80
Groupers			61,400	3,076
Hake	56,900	572		
Halibut	1,023,000	64,192		
Hardhead	147,400	6,882		
Herring	798,900	4,518	2,700	21
Horse mackerel	1,581,300	15,013		
Kingfish	634,300	14,772		

[1] The catch of cod was taken off Alaska.

Fisheries of California, 1934—Continued

CATCH: BY WATERS—Continued

Species	Off California		Off Latin America	
	Pounds	*Value*	*Pounds*	*Value*
FISH—continued				
"Lingcod"	856,500	$27,796	100	$3
Mackerel	113,582,300	718,592	266,200	1,536
Marlin	61,300	2,653	3,500	146
Mullet	18,000	766	1,000	29
Perch	192,400	11,906	300	6
Pilchard or sardine	1,135,956,300	4,178,049	2,500	39
Pompano	4,500	1,906		
Rock bass	331,500	17,332	80,900	3,365
Rockfishes	4,411,800	154,349	196,800	8,603
Rudderfishes	32,300	1,389		
Sablefish	2,104,100	56,833	1,100	23
Salmon	4,319,600	329,571		
Sculpin	71,200	4,432		
Sea bass:				
Black	53,700	1,725	805,100	36,058
White	468,700	29,183	382,900	27,276
Shad	872,000	28,288		
Sheepshead	141,800	4,753	1,700	48
Skates	232,300	2,969		
Smelt	728,600	30,339	1,400	75
Spanish mackerel			6,900	225
Splittail	55,000	662		
Squawfish	1,600	53		
Striped bass	801,300	47,794		
Suckers	63,000	701		
Swordfish	257,900	36,312	6,100	832
Tomcod	900	18		
Tuna and tunalike fishes:				
Albacore	119,800	9,203		
Bluefin	18,291,700	842,502	66,100	3,580
Bonito	3,003,000	72,232	199,700	4,644
Skipjack or striped tuna			14,830,200	593,524
Yellowfin	19,500	984	60,893,700	3,052,245
Whitebait	106,000	5,187		
Whitefish	47,700	2,931	45,500	2,274
Yellowtail	210,600	7,774	2,136,600	71,614
Other fish	233,000	6,220	1,100	53
Total	1,311,870,100	7,486,144	81,102,000	3,879,162
SHELLFISH				
Crabs	3,792,700	313,237		
Sea crawfish or spiny lobster	366,600	58,349	816,100	121,915
Shrimp	1,784,600	27,406		
Abalone	644,700	104,742		
Clams:				
Hard	28,600	5,452		
Pismo	35,200	7,373		
Soft	71,100	15,639		
Octopus	30,400	1,964		
Oysters, market:				
Eastern	89,100	38,981		
Japanese	6,700	1,675		
Native	5,000	2,728		
Squid	1,530,500	31,722		
Turtles			3,700	185
Total	8,385,200	609,268	819,800	122,100
WHALE PRODUCTS				
Whale meat	2,044,000	40,880		
Whale oil	1,954,400	50,700		
Total	3,998,400	91,580		
Grand total	1,324,253,700	8,186,992	81,921,800	4,001,262

Fisheries of the northern district of California, 1934

OPERATING UNITS: BY GEAR

Item	Gill nets	Lines		Dip nets	Traps, crab	Shovels	Total, exclusive of duplication
		Set and hand	Troll				
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:							
On vessels	1	26	32		1		34
On boats and shore	23	95	218	30	34	14	271
Total	24	121	250	30	35	14	305
Vessels, motor	1	9	14		1		14
Net tonnage	7	73	121		7		121
Boats:							
Motor	14	70	194		32		202
Other	1	1					1
Apparatus:							
Number	16	497	1,006	30	579	14	
Square yards	12,000						
Hooks		88,086	4,604				

CATCH: BY GEAR

Species	Gill nets		Lines				Dip nets	
			Set and hand		Troll			
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
Other	7,000	$294	1,300	$53				
Halibut			793,400	49,863	14,800	$857		
Herring	3,500	26						
"Lingcod"			138,900	3,892	24,500	423		
Perch	5,200	142					400	$10
Rockfishes			125,900	3,222	2,200	291		
Sablefish			696,300	20,776				
Salmon					2,769,300	211,539		
Smelt	15,800	602					13,100	363
Whitebait	400	17					75,600	3,407
Other fish			4,500	334	400	7		
Total	31,900	1,081	1,760,300	78,140	2,811,200	213,117	89,100	3,780
SHELLFISH								
Octopus			700	35				
Grand total	31,900	1,081	1,761,000	78,175	2,811,200	213,117	89,100	3,780

Species	Paranzella nets		Traps		Shovels	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:						
"Sole"	3,219,900	$160,995				
Other	480,300	16,634				
Grayfish	4,100	41				
Hake	800	8				
Halibut	214,800	13,472				
"Lingcod"	267,400	6,775				
Rockfishes	272,200	6,639				
Sablefish	98,300	2,888				
Skates	5,500	68				
Tomcod	300	6				
Other fish	106,100	2,122				
Total	4,669,700	209,648				
SHELLFISH						
Crabs	100	9	110,700	$7,044		
Clams:						
Hard					9,900	$903
Soft					100	11
Total	100	9	110,700	7,044	10,000	914
Grand total	4,669,800	209,657	110,700	7,044	10,000	914

NOTE.—The catch by paranzella nets was made entirely by fishermen from the San Francisco district.

Fisheries of the San Francisco district of California, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines, sardine	Lampara and ring nets, sardine	Haul seines	Gill nets			Lines		Fyke nets
				Drift, salmon	Drift, shad	Other	Set and hand	Troll	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	346	104					6	79	
On boats and shore		84	13	279	339	66	165	212	80
Total	346	188	13	279	339	66	171	291	80
Vessels:									
Motor	33	10					1	15	
Net tonnage	1,446	130					9	244	
Sail							2		
Net tonnage							824		
Total vessels	33	10					3	15	
Total net tonnage	1,446	130					833	244	
Boats:									
Motor		10	5	154	186	36	33	208	52
Other			1	1	5	2	20		7
Accessory boats	33	10	5				30		
Apparatus:									
Number	33	20	6	155	191	55	1,150	870	2,075
Length, yards	11,187	5,550	770						
Square yards				534,750	673,275	64,543			
Hooks							63,032	5,315	

Item	Dip nets	Bag nets, shrimp	Paranzella nets	Beam trawls	Traps, crab	Harpoons, whaling	Rakes and tongs	Shovels	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		17	88			16			603
On boats and shore	3	29		19	275		20	82	937
Total	3	46	88	19	275	16	20	82	1,540
Vessels:									
Steam						2			2
Net tonnage						41			41
Motor		4	18						61
Net tonnage		25	255						1,761
Sail									2
Net tonnage									824
Total vessels		4	18			2			65
Total net tonnage		25	25.5			41			2,626
Boats:									
Motor	2	4		19	268		9		555
Other	1	3					9	6	38
Accessory boats									78
Apparatus:									
Number	3	11	9	19	5,226	2	20	82	
Length, yards		7,312							
Yards at mouth			150	127					

Fisheries of the San Francisco district of California, 1934—Continued

CATCH: BY GEAR

Species	Purse seines		Lampara and ring nets		Haul seines		Gill nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			21,200	$317	45,800	$687		
Carp					117,600	1,764	28,700	$262
Flounders, other							600	25
Hardhead					134,900	6,141		
Herring					395,500	2,139	360,200	1,948
Kingfish			900	27				
"Lingcod"					300	10		
Mackerel			3,700	111				
Perch			500	35	21,000	1,470	92,000	6,440
Pilchard or sardine	328,164,200	$1,213,497	39,635,000	145,625	1,400	14	200	2
Salmon							397,600	24,379
Sea bass, white			200	19			100	9
Shad							872,600	28,288
Smelt			16,300	798	3,000	147	239,700	11,733
Splittail					51,000	510		
Squawfish							1,100	36
Striped bass							799,700	47,695
Suckers							2,000	91
Tomcod			100	2				
Whitebait			2,400	120	3,500	175	400	20
Other fish							400	8
Total	328,164,200	1,213,497	39,680,300	147,054	774,000	13,057	2,795,300	120,936

Species	Lines				Fyke nets		Dip nets	
	Set and hand		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp					11,700	$114		
Catfish	26,900	$2,664			158,000	19,983		
Cod	6,036,400	76,100						
Flounders:								
"California halibut"	1,100	88	900	$72				
"Sole"	4,200	210						
Other	1,400	62						
Grayfish	21,300	213						
Hardhead					12,500	741		
Kingfish	100	3						
"Lingcod"	236,600	8,816	1,200	24				
Rockfishes	311,100	14,088						
Sablefish	87,500	2,188						
Salmon			866,500	64,824				
Sculpin	100	1						
Skates	200	2						
Smelt							7,600	$372
Splittail					4,000	152		
Squawfish					500	17		
Striped bass	1,600	99						
Suckers					61,000	610		
Whitebait							4,400	219
Other fish	3,400	86						
Total	6,731,900	104,620	868,600	64,920	247,700	21,617	12,000	591
SHELLFISH								
Octopus	10,200	454						
Grand total	6,742,100	105,074	868,600	64,920	247,700	21,617	12,000	591

Fisheries of the San Francisco district of California, 1934—Continued

CATCH: BY GEAR—Continued

Species	Bag nets		Paranzella nets		Beam trawls	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:						
"California halibut"			26,100	$2,192		
"Sole"			4,288,900	243,239		
Other			714,800	31,650		
Grayfish			75,300	753		
Hake			48,200	482		
Kingfish			13,000	391		
"Lingcod"			85,800	3,198		
Rockfishes			233,100	10,556		
Sablefish			70,900	1,773		
Sculpin			700	7		
Skates			168,100	2,101		
Tomcod			500	10		
Other fish			86,400	2,160		
Total			5,811,800	298,512		
SHELLFISH						
Crabs			31,500	2,703		
Shrimp	1,333,800	$20,007			449,900	$7,215
Octopus			400	17		
Total	1,333,800	20,007	31,900	2,720	449,900	7,215
Grand total	1,333,800	20,007	5,843,700	301,232	449,900	7,215

Species	Traps		Harpoons		Rakes and tongs		Shovels	
SHELLFISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs	3,390,300	$290,890						
Clams:								
Hard							14,600	$3,595
Soft							71,000	15,628
Oysters, market:								
Eastern					89,100	$38,981		
Native					5,000	2,728		
Total	3,390,300	290,890			94,100	41,709	85,600	19,223
WHALE PRODUCTS								
Whale meat			2,044,000	$40,880				
Whale oil			1,954,400	50,700				
Total			3,998,400	91,580				
Grand total	3,390,300	290,890	3,998,400	91,580	94,100	41,709	85,600	19,223

Fisheries of the Monterey district of California, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines, sardine	Lampara and ring nets		Gill nets			Lines	
		Sardine	Other	Set, "California halibut"	Set, crab	Other	Set and hand	Troll
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	433	188	40					
On boats and shore		174	110	13	36	41	199	182
Total	433	362	150	13	36	41	199	182
Vessels, motor	42	17	5					
Net tonnage	1,669	204	52					
Boats:								
Motor		15	18	8	25	21	149	173
Other						10	33	
Accessory boats	42	32	23					
Apparatus:								
Number	42	32	23	8	25	34	853	467
Length, yards	13,850	8,840	4,025					
Square yards				37,826	49,225	36,840		
Hooks							87,646	2,672

Fisheries of the Monterey district of California, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Paranzella nets	Traps		Rakes and tongs	Shovels	Abalone outfits	Total, exclusive of duplication
		Crab	Octopus				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	8					68	648
On boats and shore	4	14	2	6	31	16	556
Total	12	14	2	6	31	84	1,204
Vessels, motor	2					14	67
Net tonnage	28					103	1,878
Boats:							
Motor	2	8	1	1	7	3	217
Other		4		3	12		38
Accessory boats							89
Apparatus:							
Number	2	112	6	6	31	17	
Yards at mouth	33						

CATCH: By gear

Species	Purse seines		Lampara and ring nets		Gill nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			126,800	$1,921	600	$9
Flounders:						
"California halibut"			1,200	93	28,100	2,086
"Sole"			100	3	4,000	145
Other					9,100	260
Herring	4,000	$40	2,300	23	4,900	49
Horse mackerel	27,400	596	107,900	2,346	2,500	55
Kingfish			81,700	2,575	78,600	2,477
"Lingcod"			100	4	2,300	106
Mackerel	99,300	799	4,607,700	37,142	500	5
Perch			3,200	138	23,700	896
Pilchard or sardine	342,803,300	1,270,428	136,117,000	504,509	3,100	31
Pompano			100	53		
Rockfishes			100	2	700	26
Sculpin					700	8
Sea bass, white			1,300	135	1,100	125
Skates					4,200	51
Smelt	1,200	51	32,900	1,399	114,800	4,859
Tuna, albacore	800	60				
Whitebait			17,000	1,081	2,300	148
Other fish					300	21
Total	342,936,000	1,271,974	141,099,400	551,424	281,500	11,357
SHELLFISH						
Crabs					201,400	10,091
Squid	1,100	23	1,484,400	30,631	900	19
Total	1,100	23	1,484,400	30,631	202,300	10,110
Grand total	342,937,100	1,271,997	142,583,800	582,055	483,800	21,467

Fisheries of the Monterey district of California, 1934—Continued

CATCH: BY GEAR—Continued

Species	Lines				Paranzella nets	
	Set and hand		Troll			
FISH						
Flounders:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
"California halibut"	3,400	$252	400	$27	2,800	$207
"Sole"	16,300	591			914,400	30,399
Other	13,300	534			133,900	5,051
Grayfish	400	4			5,700	57
Hake					7,700	77
Horse mackerel	700	14				
Kingfish	73,500	2,318			10,400	329
"Lingcod"	84,300	3,888	1,500	70	12,100	555
Mackerel	416,400	3,352				
Perch	1,700	65			900	37
Rockfishes	1,676,500	51,895	200	8	97,700	3,990
Sablefish	441,700	8,177			64,400	1,192
Salmon			286,200	28,829		
Sculpin	3,700	37				
Skates	6,300	77			29,100	357
Smelt	13,800	584				
Other fish	800	41			21,900	1,159
Total	2,752,800	71,821	288,300	28,934	1,301,000	43,410
SHELLFISH						
Crabs					500	24
Octopus	4,200	316				
Total	4,200	316			500	24
Grand total	2,757,000	72,137	288,300	28,934	1,301,500	43,434

Species	Traps		Rakes and tongs		Shovels		Abalone outfits	
SHELLFISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs	33,600	$1,683						
Shrimp	900	184						
Abalone							557,400	$95,914
Clams, Pismo					4,800	$1,088		
Octopus	14,800	1,127						
Oysters, market, Japanese			6,700	$1,675				
Total	49,300	2,994	6,700	1,675	4,800	1,088	557,400	95,914

Fisheries of the San Pedro district of California, 1934

OPERATING UNITS: BY GEAR

Item	Purse seines			Lampara and ring nets			Gill nets		
	Mackerel	Sardine	Tuna	Mackerel	Sardine	Other [1]	Drift, barracuda	Set, sea bass	Other
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	168	743	696	522	430	34	12	8	2
On boats and shore				74	17	22	38	58	35
Total	168	743	696	596	447	56	50	66	37
Vessels, motor	17	71	66	53	41	3	4	3	1
Net tonnage	466	2,920	2,884	869	914	61	41	22	8
Boats:									
Motor				9	2	6	14	26	15
Other								3	5
Accessory boats	17	71	66	62	43	9			
Apparatus:									
Number	17	71	66	62	43	9	18	32	23
Length, yards	6,707	27,187	38,212	24,686	18,282	3,240			
Square yards							201,546	155,936	14,522

[1] Includes 1 haul seine.

Fisheries of the San Pedro district of California, 1934—Continued

OPERATING UNITS: By gear—Continued

Item	Trammel nets	Lines		Paranzella nets	Traps, lobster	Harpoons, swordfish	Shovels	Abalone outfits	Total, exclusive of duplication
		Set and hand	Troll						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	15	373	18	10	16	27	--------	5	1,725
On boats and shore	72	410	206	14	178	62	64	1	723
Total	87	783	224	24	194	89	64	6	2,448
Vessels, motor	5	51	7	3	8	9	--------	1	186
Net tonnage	47	2,902	47	41	62	96	--------	9	7,155
Boats:									
Motor	30	251	143	5	112	28	1	--------	349
Other	1	33	--------	--------	23	--------	3	1	50
Accessory boats	--------	32	--------	--------	--------	--------	--------	--------	205
Apparatus:									
Number	36	1,592	724	4	5,172	37	64	2	--------
Square yards	188,784	--------	--------	--------	--------	--------	--------	--------	--------
Yards at mouth	--------	--------	--------	67	--------	--------	--------	--------	--------
Hooks	--------	289,456	724	--------	--------	--------	--------	--------	--------

CATCH OFF CALIFORNIA: By gear

Species	Purse seines		Lampara and ring nets		Gill nets		Trammel nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	--------	--------	63,100	$788	--------	--------	--------	--------
Barracuda	371,500	$13,018	1,001,600	36,341	106,100	$4,404	--------	--------
Flounders:								
"California halibut"	100	10	400	49	100	10	324,100	$29,072
"Sole"	--------	--------	200	10	--------	--------	5,900	248
Other	--------	--------	100	4	--------	--------	100	4
Flyingfish	--------	--------	1,300	43	25,100	842	--------	--------
Grayfish	100	4	3,000	88	42,000	1,109	31,500	913
Herring	--------	--------	--------	--------	400	20	--------	--------
Horse mackerel	391,500	3,256	1,042,900	8,673	600	5	--------	--------
Kingfish	--------	--------	240,800	4,239	100	2	--------	--------
"Lingcod"	--------	--------	--------	--------	--------	--------	100	4
Mackerel	10,461,100	66,355	75,116,900	476,480	28,800	273	100	1
Marlin	300	13	--------	--------	--------	--------	--------	--------
Mullet	--------	--------	2,200	102	1,500	73	--------	--------
Perch	--------	--------	29,700	1,987	7,300	303	--------	--------
Pilchard or sardine	177,098,500	639,808	108,082,000	390,468	300	6	--------	--------
Pompano	--------	--------	4,400	1,853	--------	--------	--------	--------
Rock bass	7,500	437	9,900	574	2,900	159	3,200	162
Rockfishes	--------	--------	--------	--------	400	16	300	10
Rudderfishes	100	6	30,600	1,315	1,400	57	--------	--------
Sablefish	--------	--------	--------	--------	--------	--------	300	8
Sculpin	--------	--------	100	8	--------	--------	100	10
Sea bass:								
Black	800	33	600	24	900	43	900	42
White	62,300	3,656	204,400	11,899	127,100	8,756	300	17
Sheepshead	--------	--------	--------	--------	1,500	52	4,100	133
Skates	--------	--------	--------	--------	--------	--------	10,500	193
Smelt	2,700	92	186,200	6,314	49,900	1,932	--------	--------
Tuna and tunalike fishes:								
Albacore	1,300	98	--------	--------	--------	--------	--------	--------
Bluefin	16,343,100	752,727	1,594,900	73,456	100	5	--------	--------
Bonito	1,152,400	28,662	815,400	20,279	8,600	215	1,600	40
Whitefish	--------	--------	200	13	400	26	--------	--------
Yellowtail	70,700	3,120	45,100	1,993	500	21	--------	--------
Other fish	100	2	300	21	200	10	200	8
Total	205,964,100	1,511,297	188,476,300	1,037,021	406,200	18,339	383,300	30,865
SHELLFISH								
Sea crawfish or spiny lobster	--------	--------	--------	--------	--------	--------	7,900	1,283
Squid	--------	--------	39,400	913	100	3	200	5
Total	--------	--------	39,400	913	100	3	8,100	1,288
Grand total	205,964,100	1,511,297	188,515,700	1,037,934	406,300	18,342	391,400	32,153

Fisheries of the San Pedro district of California, 1934—Continued

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Lines				Paranzella nets	
	Set and hand		Troll			
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	62,400	$2,282	34,200	$1,230		
Flounders:						
"California halibut"	25,400	2,318			181,400	$12,923
"Sole"	6,600	306			504,700	14,488
Other	14,800	2,120				
Grayfish	305,100	8,910	500	13	2,600	43
Hake	200	5				
Horse mackerel	6,200	52				
Kingfish	130,400	2,297				
"Lingcod"	1,400	39				
Mackerel	11,545,000	73,434				
Marlin	6,200	307				
Perch	5,900	335				
Rock bass	137,300	7,876			100	5
Rockfishes	1,404,800	52,674			800	25
Rudderfishes	200	11				
Sablefish	643,200	19,805			200	4
Sculpin	57,100	3,938				
Sea bass:						
Black	14,400	652				
White	6,600	473				
Sheepshead	69,100	2,378				
Skates	3,000	56			1,000	19
Smelt	3,300	113				
Tuna and tunalike fishes:						
Albacore	5,300	412	112,400	8,633		
Bluefin	1,500	69	600	31		
Bonito	13,100	326	9,900	246		
Yellowfin	100	8	100	6		
Whitefish	30,100	2,087				
Yellowtail	6,100	270	4,100	178		
Other fish	8,000	241				
Total	14,512,800	183,794	161,800	10,337	690,800	27,507
SHELLFISH						
Octopus	100	15				
Grand total	14,512,900	183,809	161,800	10,337	690,800	27,507

Species	Traps		Harpoons		Shovels		Abalone outfits	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Kingfish	200	$4						
Marlin			13,400	$664				
Perch	400	31						
Rock bass	55,200	3,175						
Rockfishes	200	6						
Sculpin	1,300	64						
Sheepshead	62,800	2,038						
Swordfish			193,100	28,050				
Whitefish	1,100	71						
Total	121,200	5,389	206,500	28,714				
SHELLFISH								
Crabs	24,600	793						
Sea crawfish or spiny lobster	288,000	45,955						
Abalone							87,300	$8,828
Clams:								
Hard					4,100	$954		
Pismo					30,400	6,285		
Total	312,600	46,748			34,500	7,239	87,300	8,828
Grand total	433,800	52,137	206,500	28,714	34,500	7,239	87,300	8,828

Fisheries of the San Pedro district of California, 1934—Continued

CATCH OFF LATIN AMERICA: BY GEAR

Species	Purse seines		Gill nets		Trammel nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda			9,400	$797		
Flounders, "California halibut"					102,200	$7,750
Marlin	100	$4				
Mullet			1,000	29		
Sea bass:						
Black			400	19	900	39
White			9,400	695	100	6
Tuna and tunalike fishes:						
Skipjack or striped tuna	466,700	18,684				
Yellowfin	1,883,200	94,362				
Yellowtail	9,000	359	200	8		
Total	2,359,000	113,409	20,400	1,548	103,200	7,795

Species	Lines				Harpoons		Traps	
	Set and hand		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	129,900	$11,034	3,700	$311				
Cabrilla	168,200	7,077						
Corbina	1,000	62						
Grayfish	1,100	32						
Grouper	39,900	2,075						
"Lingcod"	100	3						
Rock bass	25,100	1,421						
Rockfishes	14,100	535						
Sea bass:								
Black	473,900	22,106						
White	113,300	8,399						
Sheepshead	200	7						
Smelt	100	4						
Spanish mackerel	3,200	152						
Tuna and tunalike fishes:								
Bluefin	16,500	1,262						
Bonito	34,300	931						
Skipjack or striped tuna	3,342,200	133,797						
Yellowfin	17,568,600	880,326						
Whitefish	18,100	910						
Yellowtail	1,012,600	40,419	300	12				
Other fish	1,100	53						
Total	22,963,500	1,110,605	4,000	323				
SHELLFISH								
Sea crawfish or spiny lobster							111,100	$21,001
Turtles					300	$23		
Total					300	23	111,100	21,001
Grand total	22,963,500	1,110,605	4,000	323	300	23	111,100	21,001

Fisheries of the San Diego district of California, 1934

OPERATING UNITS: BY GEAR

Item	Lampara and ring gnets		Gill nets			Trammel nets	Lines		Traps, lobster	Harpoons, swordfish	Total, exclusive of duplication
	Mackerel	Sardine	Drift, barracuda	Set, sea bass	Other		Set and hand	Troll			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:											
On vessels	130	69	4	4		4	566		2	19	676
On boats and shore	18	9	36	31	13	31	129	56	53	32	214
Total	148	78	40	35	13	35	695	56	55	51	890
Vessels, motor	14	7	1	1		1	64		1	5	76
Net tonnage	111	65	5	5		5	4,206		6	51	4,296
Boats:											
Motor	2	1	15	13	8	11	66	42	35	9	109
Other					1		2		4		5
Accessory boats	16	8					61				72
Apparatus:											
Number	16	8	16	14	9	12	907	234	1,348	14	
Length, yards	4,813	2,320									
Square yards			126,800	69,230	14,360	121,120					
Hooks							45,620	234			

Fisheries of the San Diego district of California, 1934—Continued

CATCH OFF CALIFORNIA: BY GEAR

Species	Purse seines		Lampara and ring nets		Gill nets		Trammel nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	500	$19	72,600	$3,105	104,700	$4,476		
Flounders: "California halibut"			200	10			51,000	$3,331
Grayfish			7,300	52	7,100	51	8,200	58
Herring					28,100	273		
Horse mackerel			1,600	16				
Kingfish			100	3	700	15		
Mackerel			9,831,700	52,747	2,400	13		
Mullet					14,300	591		
Perch			300	10	200	7		
Pilchard, or sardine			4,051,300	13,301				
Rock bass			8,000	333	700	30	100	5
Rockfishes			700	21	200	10	200	9
Sea bass:								
Black			3,700	95	1,000	26		
White			24,200	1,517	29,600	1,856	200	14
Skates			300	3	100	2	4,000	40
Smelt			1,200	47	27,100	933		
Tuna and tunalike fishes:								
Bluefin	139,400	6,432	160,000	7,378				
Bonito	3,300	75	387,200	8,681	47,000	1,053	100	3
Yellowtail			30,400	791	400	11		
Total	143,200	6,526	14,580,800	88,110	263,600	9,347	63,800	3,460
SHELLFISH								
Sea crawfish or spiny lobster							100	11
Squid			4,400	128				
Total			4,400	128			100	11
Grand total	143,200	6,526	14,585,200	88,238	263,600	9,347	63,900	3,471

Species	Lines				Traps		Harpoons	
	Set and hand		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	44,000	$1,884	3,600	$153				
Flounders:								
"California halibut"	1,800	119						
"Sole"	2,400	206						
Grayfish	6,400	46						
Kingfish	3,100	75			700	$17		
Mackerel	1,464,900	7,859	3,800	21				
Marlin	1,100	46					40,300	$1,623
Rock bass	45,600	1,972			61,000	2,604		
Rockfishes	283,700	10,832			800	29		
Sablefish	1,300	22						
Sculpin	7,400	359						
Sea bass:								
Black	31,400	810						
White	11,300	707						
Sheepshead	400	14			3,900	138		
Swordfish							64,800	8,262
Tuna and tunalike fishes:								
Bluefin	51,200	2,363	900	41				
Bonito	372,600	8,353	191,800	4,299				
Yellowfin	19,300	970						
Whitefish	15,900	734						
Yellowtail	47,700	1,243	5,600	147				
Total	2,411,500	38,614	205,700	4,661	66,400	2,788	105,100	9,885
SHELLFISH								
Sea crawfish or spiny lobster					70,600	11,100		
Grand total	2,411,500	38,614	205,700	4,661	137,000	13,888	105,100	9,885

NOTE.—The catch by purse seines was made entirely by fishermen from the San Pedro district.

Fisheries of the San Diego district of California, 1934—Continued

CATCH OFF LATIN AMERICA: BY GEAR

Species	Purse seines		Lampara and ring nets		Gill nets		Trammel nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda					38,600	$2,554		
Flounders, "California halibut"							285,500	$20,443
Grayfish					3,400	36	400	4
Herring					2,700	21		
Perch			300	$6				
Pilchard			2,500	39				
Rock bass					400	14	200	7
Rockfishes							300	16
Sea bass:								
Black					5,600	233	1,600	69
White					222,200	15,533		
Sheepshead							300	8
Smelt			600	32	600	33		
Tuna and tunalike fishes, yellowfin	791,400	$39,571						
Yellowtail					1,600	43		
Total	791,400	39,571	3,400	77	275,100	18,467	288,300	20,547
SHELLFISH								
Sea crawfish or spiny lobster							1,200	164
Grand total	791,400	39,571	3,400	77	275,100	18,467	289,500	20,711

Species	Lines				Traps		Harpoons	
	Set and hand		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	154,500	$10,239	45,500	$3,012				
Cabrilla	163,500	6,451						
Flounders, "California halibut"	800	57						
Grayfish	800	8						
Groupers	21,500	1,001						
Mackerel	266,200	1,536						
Marlin							3,400	$142
Rock bass	53,000	1,846			2,200	$77		
Rockfishes	182,400	8,052						
Sablefish	1,100	23						
Sea bass:								
Black	322,700	13,592						
White	37,900	2,643						
Sheepshead	1,200	33						
Smelt	100	6						
Spanish mackerel	3,700	73						
Swordfish							6,100	832
Tuna and tunalike fishes:								
Bluefin	49,600	2,318						
Bonito	161,400	3,624	4,000	89				
Skipjack, or striped tuna	11,021,300	441,043						
Yellowfin	40,650,500	2,037,986						
Whitefish	27,400	1,364						
Yellowtail	1,111,900	30,746	1,000	27				
Total	54,231,500	2,562,641	50,500	3,128	2,200	77	9,500	974
SHELLFISH								
Sea crawfish or spiny lobster					703,800	100,750		
Turtles							3,400	162
Total					703,800	100,750	3,400	162
Grand total	54,231,500	2,562,641	50,500	3,128	706,000	100,827	12,900	1,136

NOTE.—The catch by purse seines was made entirely by fishermen from the San Pedro district.

HALIBUT FISHERY OF THE PACIFIC COAST

The halibut fishery of the Pacific coast, which is prosecuted by United States (including Alaska) and Canadian vessels, ranks as one of the foremost fisheries of that section. During 1934, the total catch of halibut by vessels of both nationalities amounted to 46,018,000 pounds, valued at $2,963,000. This is an increase of less than one-half of 1 percent in volume and 15 percent in value as compared with the catch and its value in 1933. Of the total catch in 1934, 79 percent was taken by United States craft and 21 percent by Canadian craft. Considered according to ports of landing, 44 percent was landed at ports in the State of Washington; 40 percent at Canadian ports; and 16 percent at ports in Alaska.

NOTE.—These statistics are compiled from data collected by the International Fisheries Commission for Washington and British Columbia, and by Bureau agents for Alaska. The weights of the above species represent the fish after evisceration and removal of heads.

Halibut fishery of the Pacific coast, 1934

UNITED STATES OPERATING UNITS: BY FLEET CLASSIFICATION

Item	Washington fleet	Alaska fleet	Total
Regular halibut vessels:			
Number	134	92	226
Net tonnage	3,945	1,636	5,581
Crew	963	461	1,424
Dories [1]	13	----------	13
Skates of lines	3,824	2,082	5,906
Vessels in other fisheries, but landing 1 or more fares of halibut:			
Number	15	13	28
Net tonnage	266	98	364
Crew	73	40	113
Skates of lines	284	189	473
Regular halibut boats:			
Number	----------	32	32
Crew	----------	65	65
Skates of lines	----------	416	416
Boats in other fisheries, but landing 1 or more fares of halibut:			
Number	2	78	80
Crew	6	128	134
Skates of lines	24	410	434

CATCH OF ALL SPECIES: BY UNITED STATES VESSELS AND BOATS

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
WASHINGTON FLEET								
Regular vessels:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut	18,840,728	$1,398,203	2,634,440	$165,286	1,215,610	$69,843	22,690,778	$1,633,332
Sablefish	2,187,108	83,215	2,018	65	9,118	375	2,198,244	83,655
"Lingcod"	682,021	23,482	----------	----------	----------	----------	682,021	23,482
Rockfishes	376,253	14,602	----------	----------	----------	----------	376,253	14,602
Total	22,086,110	1,519,502	2,636,458	165,351	1,224,728	70,218	25,947,296	1,755,071
Other vessels and boats:								
Halibut	387,603	28,881	----------	----------	----------	----------	387,603	28,881
Sablefish	22,553	838	----------	----------	----------	----------	22,553	838
"Lingcod"	48,387	1,107	----------	----------	----------	----------	48,387	1,107
Rockfishes	10,265	257	----------	----------	----------	----------	10,265	257
Total	468,808	31,083	----------	----------	----------	----------	468,808	31,083

[1] The dories shown are those which actually engage in fishing. In previous figures lifeboats were also included.

Halibut fishery of the Pacific coast, 1934—Continued

CATCH OF ALL SPECIES: BY UNITED STATES VESSELS AND BOATS—Continued

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
ALASKA FLEET								
Regular vessels:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut	1,329,811	$95,153	5,851,433	$374,892	4,188,010	$230,604	11,369,254	$700,649
Sablefish	49,758	1,948	27,445	460	149,442	3,786	226,645	6,194
"Lingcod"	6,612	311			39,000	1,170	45,612	1,481
Rockfishes	2,501	130			566	12	3,067	142
Total	1,388,682	97,542	5,878,878	375,352	4,377,018	235,572	11,644,578	708,466
Other vessels and boats:								
Halibut			104,035	6,246	1,748,049	97,890	1,852,084	104,136
Sablefish					4,460	136	4,460	136
Total			104,035	6,246	1,752,509	98,026	1,856,544	104,272
COMBINED FLEETS								
Regular vessels:								
Halibut	20,170,539	1,493,356	8,485,873	540,178	5,403,620	300,447	34,060,032	2,333,981
Sablefish	2,236,866	85,163	29,463	525	158,560	4,161	2,424,889	89,849
"Lingcod"	688,633	23,793			39,000	1,170	727,633	24,963
Rockfishes	378,754	14,732			566	12	379,320	14,744
Total	23,474,792	1,617,044	8,515,336	540,703	5,601,746	305,790	37,591,874	2,463,537
Other vessels and boats:								
Halibut	387,603	28,881	104,035	6,246	1,748,049	97,890	2,239,687	133,017
Sablefish	22,553	838			4,460	136	27,013	974
"Lingcod"	48,387	1,107					48,387	1,107
Rockfishes	10,265	257					10,265	257
Total	468,808	31,083	104,035	6,246	1,752,509	98,026	2,325,352	135,355
All vessels and boats:								
Halibut	20,558,142	1,522,237	8,589,908	546,424	7,151,669	398,337	36,299,719	2,466,998
Sablefish	2,259,419	86,001	29,463	525	163,020	4,297	2,451,902	90,823
"Lingcod"	737,020	24,900			39,000	1,170	776,020	26,070
Rockfishes	389,019	14,989			566	12	389,585	15,001
Grand total	23,943,600	1,648,127	8,619,371	546,949	7,354,255	403,816	39,917,226	2,598,892

CATCH OF HALIBUT: BY UNITED STATES AND CANADIAN VESSELS AND BOATS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
WASHINGTON FLEET	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Regular halibut vessels	18,841	1,398	2,634	165	1,216	70	22,691	1,633
Other vessels and boats	388	29					388	29
Total	19,229	1,427	2,634	165	1,216	70	23,079	1,662
ALASKA FLEET								
Regular halibut vessels	1,330	95	5,851	375	4,188	231	11,369	701
Other vessels and boats			104	6	1,748	98	1,852	104
Total	1,330	95	5,955	381	5,936	329	13,221	805
COMBINED FLEETS								
Regular halibut vessels	20,171	1,493	8,485	540	5,404	301	34,060	2,334
Other vessels and boats	388	29	104	6	1,748	98	2,240	133
Total	20,559	1,522	8,589	546	7,152	399	36,300	2,467
British Columbia fleet			9,718	496			9,718	496
Grand total	20,559	1,522	18,307	1,042	7,152	399	46,018	2,963

NOTE.—In addition to the above it is estimated that about 850,000 pounds of halibut, sablefish, "lingcod", and rockfish livers, valued at about $175,000, were landed at Pacific coast ports during 1934.

VESSEL FISHERIES AT SEATTLE, WASH.

A total of 44,363,035 pounds of fishery products, valued at $2,754,582, were handled by Seattle wholesale dealers during 1934, exclusive of quantities received by transporting vessels or by rail from Alaska or Canada. This represents an increase of 2 percent in volume and 13 percent in value as compared with the volume and value of the products handled during the preceding year. Of the total quantity handled, 23,943,600 pounds, valued at $1,648,127, were landed by fishing vessels—a decrease of 1 percent in volume but an increase of 10 percent in value as compared with the previous year. Receipts by wholesale dealers from sources other than Alaska or Canada or from vessels in the halibut fleet, amounted to 20,419,435 pounds, valued at $1,106,455, which is an increase of 6 percent in volume and 16 percent in value.

Fishery products landed by United States vessels at Seattle, Wash., 1934 [1]

BY FISHING GROUNDS

Fishing grounds	Trips	Halibut				Sablefish		"Lingcod"		Rockfishes		Total	
		No. 1		No. 2									
	Number	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
West of Cape Spencer	446	8, 868, 923	$686, 348	5, 504, 626	$364, 710	31, 350	$1, 037	3, 679	$117	17, 409	$472	14, 425, 987	$1, 052, 784
South of Cape Spencer	710	3, 025, 896	265, 495	3, 158, 697	205, 684	2, 228, 069	84, 964	733, 341	24, 783	371, 610	14, 417	9, 517, 613	595, 343
Total	1, 156	11, 894, 819	951, 843	8, 663, 323	570, 394	2, 259, 419	86, 001	737, 020	24, 900	389, 019	14, 989	23, 943, 600	1, 648, 127

BY MONTHS

Months	Trips	Halibut				Sablefish		"Lingcod"		Rockfishes		Total	
		No. 1		No. 2									
	Number	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
January	13							51, 340	$3, 215	29, 044	$1, 811	80, 384	$5, 026
February	32					2, 141	$170	166, 445	5, 367	104, 373	3, 452	272, 959	8, 989
March	137	2, 077, 200	$147, 462	956, 492	$54, 415	31, 608	995	49, 011	1, 662	19, 551	760	3, 133, 862	205, 294
April	134	1, 544, 667	128, 682	991, 925	63, 414	11, 945	367	80, 356	1, 985	19, 601	428	2, 648, 494	194, 876
May	157	1, 865, 382	148, 222	1, 279, 186	78, 060	13, 365	672	89, 452	1, 884	19, 716	467	3, 267, 101	229, 305
June	128	1, 571, 579	122, 771	1, 253, 827	78, 511	78, 579	3, 758	42, 497	878	6, 137	164	2, 952, 619	206, 082
July	109	1, 157, 563	89, 562	999, 470	60, 908	151, 954	5, 524	15, 031	294	6, 640	197	2, 330, 658	156, 485
August	124	1, 435, 452	103, 102	1, 359, 234	88, 466	129, 276	4, 736	14, 839	435	16, 376	492	2, 955, 177	197, 231
September	97	845, 686	82, 134	881, 048	72, 039	539, 094	22, 742	15, 502	506	32, 198	1, 272	2, 313, 528	178, 693
October	117	789, 135	83, 512	439, 669	38, 672	1, 054, 128	38, 246	37, 066	1, 561	23, 991	1, 070	2, 343, 989	163, 061
November	83	608, 155	46, 396	502, 472	35, 909	218, 484	7, 564	36, 207	1, 764	38, 426	2, 073	1, 403, 744	93, 706
December	25					28, 845	1, 227	139, 274	5, 349	72, 966	2, 803	241, 085	9, 379
Total	1, 156	11, 894, 819	951, 843	8, 663, 323	570, 394	2, 259, 419	86, 001	737, 020	24, 900	389, 019	14, 989	23, 943, 600	1, 648, 127

[1] Halibut fleet.

Lake fisheries of the United States, 1934—Continued

OPERATING UNITS: BY STATES AND LAKES

Item	New York			Pennsylvania	Ohio
	Lake Ontario	Lake Erie	Total	Lake Erie	Lake Erie
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	11	67	78	111	97
On boats and shore:					
Regular	111	2	113	41	567
Casual	83	8	91	56	347
Total	205	77	282	208	1,011
Vessels:					
Steam	----------	4	4	12	6
Net tonnage	----------	94	94	307	201
Motor	3	11	14	9	13
Net tonnage	42	75	117	80	130
Total vessels	3	15	18	21	19
Total net tonnage	42	169	211	387	331
Boats:					
Motor	67	2	69	26	216
Other	61	7	68	41	100
Apparatus:					
Haul seines	3	----------	3	11	78
Length, yards	260	----------	260	1,210	43,672
Gill nets:					
"Shoal", 2¼ to 3⅞ inches	1,962	1,544	3,506	5,762	6,934
Square yards	242,650	207,060	449,710	646,633	1,013,154
"Shoal", 4 to 6 inches	379	2,342	2,721	3,542	760
Square yards	73,050	579,490	652,540	903,620	120,000
Trammel nets	----------	----------	----------	----------	116
Square yards	----------	----------	----------	----------	4,640
Lines:					
Trot	63	2	65	32	----------
Hooks	32,010	350	32,360	4,800	----------
Pound nets	----------	----------	----------	28	6
Trap nets	192	----------	192	67	3,798
Fyke nets	113	----------	113	----------	243

Item	Michigan					Indiana
	Lake Erie	Lake Huron	Lake Michigan	Lake Superior	Total	Lake Michigan
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	----------	248	454	92	794	18
On boats and shore:						
Regular	121	887	514	327	1,849	23
Casual	87	158	637	92	974	61
Total	208	1,293	1,605	511	3,617	102
Vessels:						
Steam	----------	9	19	6	34	1
Net tonnage	----------	125	338	115	578	22
Motor	----------	52	116	20	188	4
Net tonnage	----------	640	1,155	166	1,961	57
Total vessels	----------	61	135	26	222	5
Total net tonnage	----------	765	1,493	281	2,539	79
Boats:						
Motor	32	299	408	170	909	56
Other	62	125	315	47	549	1
Accessory boats	----------	3	11	2	16	----------
Apparatus:						
Haul seines	41	63	----------	10	114	----------
Length, yards	11,649	27,258	----------	1,233	40,140	----------
Gill nets:						
"Shoal", 2¼ to 3⅞ inches	35	2,115	5,531	2,030	9,711	848
Square yards	4,520	576,860	1,142,134	318,845	2,042,359	200,968
"Shoal", 4 to 6 inches	17	5,823	17,326	4,746	27,912	687
Square yards	3,400	1,606,150	4,569,611	1,302,073	7,481,234	206,240
Lines:						
Troll	----------	----------	----------	31	31	----------
Hooks	----------	----------	----------	31	31	----------
Trot	5	361	165	747	1,278	----------
Hooks	600	135,600	132,610	219,260	488,070	----------
Pound nets	----------	394	437	49	880	5
Trap nets	121	2,778	601	108	3,608	----------
Fyke nets	559	339	56	35	989	----------
Crowfoot bars	4	5	596	----------	605	42
Picks	3	7	132	----------	142	----------
Diving outfits	----------	----------	16	----------	16	----------

Lake fisheries of the United States, 1934—Continued

OPERATING UNITS: BY STATES AND LAKES—Continued

Item	Illinois	Wisconsin			Minnesota		
	Lake Michigan	Lake Michigan	Lake Superior	Total	Lake Superior	Lake of the Woods, Rainy Lake, and Namakan Lake	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	72	494	39	533			
On boats and shore:							
Regular	9	422	107	529	295	103	398
Casual		568	86	654	164		164
Total	81	1,484	232	1,716	459	103	562
Vessels:							
Steam		19		19			
Net tonnage		514		514			
Motor	18	153	15	168			
Net tonnage	251	1,850	135	1,985			
Total vessels	18	172	15	187			
Total net tonnage	251	2,364	135	2,499			
Boats:							
Motor	4	236	61	297	64	79	143
Other	1	210	47	257	327	6	333
Accessory boats		1	1	2			
Apparatus:							
Haul seines		48		48			
Length, yards		13,066		13,066			
Gill nets:							
"Shoal", 2¼ to 3⅞ inches	2,034	13,785	1,108	14,893	3,366		3,366
Square yards	488,920	2,879,805	370,750	3,250,555	938,480		938,480
"Shoal", 4 to 6 inches	1,014	10,903	1,735	12,638	1,440	244	1,684
Square yards	260,860	2,993,985	421,115	3,415,100	576,000	77,940	653,940
Trammel nets		7		7			
Square yards		660		660			
Lines:							
Trot		478	93	571	363		363
Hooks		159,000	28,205	187,205	14,520		14,520
Pound nets		293	61	354		70	70
Fyke nets		1,373	10	1,383		93	93
Crawfish nets		2,710		2,710			
Crowfoot bars		38		38			

OPERATING UNITS OF LAKE ONTARIO:[1] BY GEAR

Item	Haul seines	Gill nets		Trot lines	Trap nets	Fyke nets	Total, exclusive of duplication
		"Shoal", 2¼ to 3⅞ inches	"Shoal", 4 to 6 inches				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		11					11
On boats and shore:							
Regular		33	29	2	70	14	111
Casual	6	15	11	52	8	1	83
Total	6	59	40	54	78	15	205
Vessels:							
Motor		3					3
Net tonnage		42					42
Boats:							
Motor		26	22	8	30	6	67
Other	3	5	2	46	5	4	61
Apparatus:							
Number	3	1,962	379	63	192	113	2,712
Length, yards	260						
Square yards		242,650	73,050				
Hooks				32,010			

[1] Includes Niagara River below the Falls and the St. Lawrence River.

Lake fisheries of the United States, 1934—Continued

OPERATING UNITS OF LAKE ERIE:[1] BY GEAR

Item	Haul seines	Gill nets		Trammel nets	Trot lines	Pound nets
		"Shoal", 2¼ to 3⅞ inches	"Shoal", 4 to 6 inches			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels		267	187			
On boats and shore:						
Regular	162	55	17	10	3	22
Casual	194	47	7	9	28	
Total	356	369	211	19	31	22
Vessels:						
Steam		21	19			
Net tonnage		585	528			
Motor		32	18			
Net tonnage		279	140			
Total vessels		53	37			
Total net tonnage		864	668			
Boats:						
Motor	26	33	10	8	7	5
Other	134	19	1	2	24	4
Apparatus:						
Number	130	14,275	6,661	116	39	34
Length, yards	56,531					
Square yards		1,871,367	1,606,510	4,640		
Hooks					5,750	

Item	Trap nets	Fyke nets	Crowfoot bars	Picks	By hand	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels						275
On boats and shore:						
Regular	477	105				731
Casual	37	19	2	3	174	498
Total	514	124	2	3	174	1,504
Vessels:						
Steam						22
Net tonnage						602
Motor						33
Net tonnage						285
Total vessels						55
Total net tonnage						887
Boats:						
Motor	177	35	1			276
Other	11	25	1	2	8	210
Apparatus, number	3,986	802	4	3		

[1] Includes Niagara River above the Falls.

Lake fisheries of the United States, 1934—Continued

OPERATING UNITS OF LAKE HURON: By gear

Item	Haul seines	Gill nets		Trot lines	Pound nets	Trap nets	Fyke nets	Crow-foot bars	Picks	By hand	Total, exclusive of duplication
		"Shoal", 2¼ to 3⅞ inches	"Shoal", 4 to 6 inches								
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:											
On vessels		58	134	88	14	57					248
On boats and shore:											
Regular	107	58	113	56	157	626	59				887
Casual	85	24	16	7	4	8	6	5	7	15	158
Total	192	140	263	151	175	691	65	5	7	15	1,293
Vessels:											
Steam		3	6	4	1						9
Net tonnage		30	65	71	5						125
Motor		10	28	14	3	17					52
Net tonnage		142	368	263	22	127					640
Total vessels		13	34	18	4	17					61
Total net tonnage		172	433	334	27	127					765
Boats:											
Motor	37	31	51	18	51	187	18	1			299
Other	31	14	9	7	10	50	16	4	7	9	125
Accessory boats					3						3
Apparatus:											
Number	63	2,115	5,823	361	394	2,778	339	5	7		
Length, yards	27,258										
Square yards		576,860	1,606,150								
Hooks				135,600							

OPERATING UNITS OF LAKE MICHIGAN: By gear

Item	Haul seines	Gill nets		Trammel nets	Trot lines lines	Pound nets
		"Shoal", 2¼ to 3⅞ inches	"Shoal", 4 to 6 inches			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:						
On vessels	2	611	715		215	136
On boats and shore:						
Regular	79	267	377	2	38	438
Casual	43	300	337	8	32	53
Total	124	1,178	1,429	10	285	627
Vessels:						
Steam		24	31		13	1
Net tonnage		515	628		369	9
Motor	1	169	188		55	50
Net tonnage	7	2,047	2,192		672	366
Total vessels	1	193	219		68	51
Total net tonnage	7	2,562	2,820		1,041	375
Boats:						
Motor	14	182	160		34	168
Other	42	111	55	7	12	26
Accessory boats	1					10
Apparatus:						
Number	48	22,198	29,930	7	643	735
Length, yards	13,066					
Square yards		4,711,827	8,030,696	660		
Hooks					291,610	

Lake fisheries of the United States, 1934—Continued

OPERATING UNITS OF LAKE MICHIGAN: BY GEAR—Continued

Item	Trap nets	Fyke nets	Crawfish pots	Crowfoot bars	Picks	Diving outfits	By hand	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	58	50	2					1,038
On boats and shore:								
Regular	229	185	6					968
Casual	7	46	28	449	132	32	119	1,266
Total	294	281	36	449	132	32	119	3,272
Vessels:								
Steam								39
Net tonnage								874
Motor	18	23	1					291
Net tonnage	131	182	5					3,313
Total vessels	18	23	1					330
Total net tonnage	131	182	5					4,187
Boats:								
Motor	80	76	4	241		11		704
Other	19	46	24	129	87	21	47	527
Accessory boats	4							12
Apparatus, number	601	1,429	2,710	676	132	16		

OPERATING UNITS OF LAKE SUPERIOR: BY GEAR

Item	Haul seines	Gill nets		Lines		Pound nets	Trap nets	Fyke nets	Total, exclusive of duplication
		"Shoal", 2¼ to 3⅞ inches	"Shoal", 4 to 6 inches	Troll	Trot				
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels		70	110		65	10	3	7	131
On boats and shore:									
Regular	10	469	422	8	247	79	59	14	729
Casual	12	226	177	5	36	6	3	2	342
Total	22	765	709	13	348	95	65	23	1,202
Vessels:									
Steam		2	7		4				6
Net tonnage		30	129		75				115
Motor		22	26		18	4	1	3	35
Net tonnage		199	235		179	30	9	21	301
Total vessels		24	33		22	4	1	3	41
Total net tonnage		229	364		254	30	9	21	416
Boats:									
Motor	2	169	200	7	115	34	23	7	295
Other	8	346	173		31	13		5	421
Accessory boats						2	1		3
Apparatus:									
Number	10	6,504	7,921	31	1,203	110	108	45	
Length, yards	1,233								
Square yards		1,628,075	2,299,188						
Hooks				31	261,985				

Lake fisheries of the United States, 1934—Continued

OPERATING UNITS OF LAKE OF THE WOODS, RAINY LAKE, AND NAMAKAN LAKE: BY GEAR

Item	Gill nets, "Shoal", 4 to 6 inches	Pound nets	Fyke nets	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*
Fishermen:				
On boats and shore, regular	63	36	26	103
Boats:				
Motor	62	17	20	79
Other		6		6
Apparatus:				
Number	244	70	93	
Square yards	77,940			

CATCH: BY GEAR

Species	New York							
	Haul seines		Gill nets		Trot lines		Trap nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike			606,500	$37,900			5,600	$385
Bowfin							500	5
Burbot			10,200	229			200	5
Carp	19,100	$924	5,300	135			10,500	130
Catfish and bullheads	1,200	90	2,800	222			58,500	4,656
Cisco			10,100	1,000				
Eels					2,500	$100	56,100	1,680
Lake herring			115,700	10,400			10,600	960
Lake trout			5,100	660			8,600	1,100
Mooneye			200	3				
Pike or pickerel (jacks)			500	35			13,100	920
Rock bass			600	28			5,500	116
Sturgeon			2,800	810	20,300	5,640	400	39
Sucker "mullet"	25,800	1,360	21,500	600			35,300	815
Sunfish							17,200	350
White bass			2,300	75			100	3
Whitefish, common			44,900	6,080			73,300	8,800
Yellow perch			143,400	6,040			24,000	1,372
Yellow pike			2,900	280			35,500	3,362
Total	46,100	2,374	974,800	64,497	22,800	5,740	355,000	24,698

Species	New York—Continued				Pennsylvania			
	Fyke nets		Total		Gill nets		Pound nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike			612,100	$38,285	1,856,300	$88,180	72,600	$2,900
Bowfin			500	5				
Burbot			10,400	234				
Carp	200	$2	35,100	1,191			1,800	54
Catfish and bullheads	12,100	950	74,600	5,918			2,700	135
Cisco			10,100	1,000	59,000	5,900	11,000	1,100
Eels	6,300	190	64,900	1,970				
Lake herring			126,300	11,360				
Lake trout			13,700	1,760	200	20	100	10
Mooneye			200	3				
Pike or pickerel (jacks)	1,300	90	14,900	1,045				
Rock bass			6,100	144				
Sheepshead							9,000	180
Sturgeon			23,500	6,489			1,000	330
Sucker "mullet"	9,300	190	91,900	2,965			13,700	290
Sunfish	700	14	17,900	364				
White bass			2,400	78			53,700	2,150
Whitefish:								
Common			118,200	14,880	427,100	59,750	33,300	4,340
Menominee	200	12	200	12				
Yellow perch	2,700	165	170,100	7,577	546,000	20,500	163,400	6,530
Yellow pike			38,400	3,642			10,200	1,020
Total	32,800	1,613	1,431,500	98,922	2,888,600	174,350	372,500	19,039

Lake fisheries of the United States, 1934—Continued

CATCH: BY GEAR—Continued

Species	Pennsylvania—Continued				Ohio			
	Trap nets		Total		Haul seines		Gill nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	202,700	$10,135	2,131,600	$101,215	900	$46	153,300	$8,127
Bowfin					5,400	108		
Burbot	200	4	200	4			7,900	191
Carp	100	3	1,900	57	724,900	13,773	1,800	35
Catfish and bullheads	1,000	62	3,700	197	137,500	8,623	500	31
Cisco			70,000	7,000			23,000	921
Eels	400	8	400	8				
Goldfish					49,100	368		
Lake trout			300	30				
Mooneye					18,300	183		
Sauger					8,800	387	228,800	10,067
Sheepshead	1,500	30	10,500	210	427,500	7,267	6,000	102
Sturgeon			1,000	330			10,100	2,024
Sucker "mullet"	10,000	300	23,700	590	27,900	559	14,600	292
White bass	2,000	80	55,700	2,230	22,500	809	7,900	283
Whitefish, common	2,500	350	462,900	64,440			34,700	4,551
Yellow perch	88,900	3,550	798,300	30,580	2,200	90	5,062,900	207,578
Yellow pike	1,900	190	12,100	1,210	6,700	512	9,100	694
Total	311,200	14,712	3,572,300	208,101	1,431,700	32,725	5,560,600	234,896

Species	Ohio—Continued							
	Trammel nets		Pound nets		Trap nets		Fyke nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike					5,606,000	$297,118	4,900	$257
Burbot					239,700	5,754		
Carp	198,400	$3,770	4,000	$76	101,400	1,926	31,300	595
Catfish and bullheads	500	33	1,100	43	319,100	19,802	38,500	2,154
Cisco					7,100	283		
Goldfish	700	5			9,200	69	1,100	8
Mooneye			3,400	34	2,000	20	700	7
Sauger					488,400	21,491	11,900	522
Sheepshead	900	15			1,625,500	27,634	97,800	1,663
Sturgeon					300	57		
Sucker "mullet"			9,200	184	737,200	14,744	64,400	1,287
White bass	100	4	1,800	63	495,600	17,840	88,500	3,186
Whitefish, common					242,300	31,740	1,900	255
Yellow perch					8,150,500	333,456	36,900	1,514
Yellow pike			500	38	1,089,500	82,803	61,400	4,666
Total	200,600	3,827	20,000	438	19,113,800	854,737	439,300	16,114

Species	Ohio—Continued				Michigan			
	By hand		Total		Haul seines		Gill nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike			5,765,100	$305,548				
Bowfin			5,400	108	100	$1		
Burbot			247,600	5,945	100	2	5,800	$110
Carp			1,061,800	20,175	1,166,700	22,995	5,100	94
Catfish and bullheads			497,200	30,686	15,100	765	100	5
Chubs					100	9	1,553,100	149,530
Cisco			30,100	1,204				
Goldfish			60,100	450	900	7		
Lake herring					26,000	390	2,626,000	47,950
Lake trout							3,950,900	493,090
Mooneye			24,400	244				
Pike or pickerel (jacks)					600	38	2,900	233
Rock bass					1,300	64	200	16
Sauger			737,900	32,467	1,000	74	17,700	2,016
Sheepshead			2,157,700	36,681	5,800	99	200	4
Smelt							10,400	520
Sturgeon			10,400	2,081				
Sucker "mullet"			853,300	17,066	151,100	3,748	277,800	5,743
White bass			616,400	22,185	200	5	100	4
Whitefish:								
Common			278,900	36,546			1,358,300	169,800
Menominee							150,700	8,045
Yellow perch			13,252,500	542,638	11,300	734	218,700	16,753
Yellow pike			1,167,200	88,713	77,800	9,287	127,400	15,248
Mussel shells	904,000	$13,560	904,000	13,560				
Pearls and slugs		457		457				
Total	904,000	14,017	27,670,000	1,156,754	1,458,100	38,218	10,305,400	909,161

Lake fisheries of the United States, 1934—Continued

CATCH: BY GEAR—Continued

Species	Michigan—Continued							
	Lines				Pound nets		Trap nets	
	Troll		Trot					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot			2,700	$44	100	$2	2,800	$61
Carp					28,700	514	181,400	3,558
Catfish and bullheads			200	10	2,700	135	53,400	2,684
Chubs					7,000	629	600	54
Cisco							800	34
Goldfish							1,200	9
Lake herring					3,660,300	77,810	1,179,900	23,950
Lake trout	5,800	$650	1,567,600	180,445	519,100	62,845	266,800	31,147
Mooneye					300	6	300	3
Pike or pickerel (jacks)					2,600	210	12,400	994
Rock bass					400	32	7,800	566
Sauger					4,800	560	113,800	10,515
Sheepshead					9,900	297	31,700	582
Smelt					2,200	110	3,000	150
Sucker "mullet"					198,800	4,130	2,770,400	66,383
White bass							7,400	266
Whitefish:								
Common			900	116	943,700	122,240	2,581,200	335,036
Menominee					10,100	561	5,600	315
Yellow perch			19,400	1,268	32,000	2,246	500,400	33,483
Yellow pike			700	84	278,300	33,374	1,185,700	142,399
Total	5,800	650	1,591,500	181,967	5,701,000	305,701	8,906,600	652,189

Species	Michigan—Continued							
	Fyke nets		Crowfoot bars		Picks		Diving outfits	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	3,000	$30						
Burbot	2,300	31						
Carp	43,600	833						
Catfish and bullheads	47,300	2,407						
Chubs	300	27						
Goldfish	5,600	42						
Lake herring	10,200	234						
Lake trout	2,700	300						
Pike or pickerel (jacks)	5,900	476						
Rock bass	7,400	552						
Sauger	16,700	754						
Sheepshead	16,000	274						
Sucker "mullet"	266,500	5,355						
White bass	5,700	207						
Whitefish:								
Common	6,700	1,053						
Menominee	100	6						
Yellow perch	77,400	4,465						
Yellow pike	162,800	17,323						
Mussel shells			1,237,800	$23,260	251,300	$4,550	35,200	$667
Pearls and slugs				895		173		12
Total	680,200	34,369	1,237,800	24,155	251,300	4,723	35,200	679

Lake fisheries of the United States, 1934—Continued

CATCH: BY GEAR—Continued

Species	Michigan—Continued				Indiana			
	By hand		Total		Gill nets		Pound nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			3,100	$31				
Buffalofish							1,000	$45
Burbot			13,800	250				
Carp			1,425,500	27,994			2,400	72
Catfish and bullheads			118,800	6,006				
Chubs			1,561,100	150,249	352,300	$33,500		
Cisco			800	34				
Goldfish			7,700	58				
Lake herring			7,502,400	150,334	22,000	900	28,000	800
Lake trout			6,312,900	768,477	88,400	9,300		
Mooneye			600	9				
Pike or pickerel (jacks)			24,400	1,951				
Rock bass			17,100	1,230				
Sauger			154,000	13,919				
Sheepshead			63,600	1,256				
Smelt			15,600	780				
Steelhead trout					1,600	250		
Sucker "mullet"			3,664,600	85,359			600	18
White bass			13,400	482				
Whitefish:								
Common			4,890,800	628,245	3,000	360	900	110
Menominee			166,500	8,927				
Yellow perch			859,200	58,949	48,500	3,900	1,600	128
Yellow pike			1,832,700	217,715			1,300	140
Mussel shells	219,800	$3,777	1,744,100	32,254				
Pearls and slugs		340		1,420				
Total	219,800	4,117	30,392,700	2,155,929	515,800	48,210	35,800	1,313

Species	Indiana—Continued						Illinois	
	Crowfoot bars		By hand		Total		Gill nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Buffalofish					1,000	$45		
Carp					2,400	72		
Chubs					352,300	33,500	827,700	$65,300
Lake herring					50,000	1,700	50,700	1,000
Lake trout					88,400	9,300	225,200	21,800
Steelhead trout					1,600	250		
Sucker "mullet"					600	18		
Whitefish, common					3,900	470	700	84
Yellow perch					50,100	4,028	102,400	3,600
Yellow pike					1,300	140		
Mussel shells	124,000	$1,860	26,000	$390	150,000	2,250		
Total	124,000	1,860	26,000	390	701,600	51,773	1,206,700	91,784

Species	Wisconsin							
	Haul seines		Gill nets		Trammel nets		Trot lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot			21,700	$217			5,000	$50
Carp	1,223,800	$15,300	12,600	157	17,900	$224		
Catfish and bullheads	3,200	210	2,000	130				
Chubs			4,354,600	389,315				
Lake herring			5,506,000	89,131				
Lake trout			2,169,600	247,056			719,700	84,653
Pike or pickerel (jacks)			22,600	1,786				
Smelt			264,000	4,000				
Sucker "mullet"	13,100	460	397,100	13,737				
Whitefish:								
Common			136,500	17,778				
Menominee			40,000	2,415				
Yellow perch			245,000	13,522				
Yellow pike			2,200	221				
Total	1,240,100	15,970	13,173,900	779,465	17,900	224	724,700	84,703

Lake fisheries of the United States, 1934—Continued

CATCH: BY GEAR—Continued

Species	Wisconsin—Continued							
	Pound nets		Fyke nets		Crawfish pots		Crowfoot bars	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot	1,500	$15	4,000	$40				
Carp	1,300	16	52,900	661				
Catfish and bullheads	700	45	43,000	2,800				
Chubs	11,700	1,040	500	45				
Lake herring	2,674,300	46,702	14,400	243				
Lake trout	312,100	36,132	100	13				
Pike or pickerel (jacks)	19,000	1,502	27,500	2,193				
Smelt	603,500	9,100	146,200	2,200				
Sucker "mullet"	117,200	2,804	327,800	11,055				
Whitefish:								
Common	199,800	25,647	500	48				
Menominee	19,600	922	900	54				
Yellow perch	90,800	5,000	482,700	26,509				
Yellow pike	10,600	1,081	9,900	998				
Crawfish					35,600	$3,200		
Mussel shells							320,000	$3,110
Total	4,062,100	130,006	1,110,400	46,859	35,600	3,200	320,000	3,110

Species	Wisconsin—Continued				Minnesota			
	By hand		Total		Gill nets		Trot lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot			32,200	$322	13,700	$36		
Carp			1,308,500	16,358	200	3		
Catfish and bullheads			48,900	3,185	5,600	225		
Chubs			4,366,800	390,400	40,800	4,124		
Lake herring			8,194,700	136,076	8,016,600	139,729		
Lake trout			3,201,500	367,854	219,900	25,006	49,800	$5,539
Mooneye					500	6		
Pike or pickerel (jacks)			69,100	5,481	293,500	6,340		
Sauger					213,700	8,546		
Smelt			1,013,700	15,300				
Sturgeon					200	46		
Sucker "mullet"			855,200	28,056	81,400	934		
Tullibees					152,400	381		
Whitefish:								
Common			336,800	43,473	103,100	8,855		
Menominee			60,500	3,391	1,800	127		
Yellow perch			818,500	45,031	36,000	1,469		
Yellow pike			22,700	2,300	627,700	49,265		
Crawfish			35,600	3,200				
Mussel shells	16,300	$150	336,300	3,260				
Total	16,300	150	20,701,000	1,063,687	9,807,100	245,092	49,800	5,539

Species	Minnesota—Continued					
	Pound nets		Fyke nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot	77,600	$194			91,300	$250
Carp	8,300	83	2,800	$27	11,300	113
Catfish and bullheads	600	24	39,800	1,590	46,000	1,839
Chubs	100	1			40,900	4,125
Crappie	300	20	700	53	1,000	73
Lake herring					8,016,600	139,729
Lake trout					269,700	30,545
Mooneye					500	6
Pike or pickerel (jacks)	118,400	2,558	38,500	800	450,400	9,698
Sauger	61,800	2,473	7,000	280	282,500	11,299
Sturgeon	1,400	325			1,600	371
Sucker "mullet"	32,300	496	13,500	223	127,200	1,653
Tullibees	3,100	8			155,500	389
Whitefish:						
Common	77,200	6,295	3,500	280	183,800	15,430
Menominee					1,800	127
Yellow perch	4,300	188	8,000	321	48,300	1,978
Yellow pike	325,300	25,816	54,000	4,099	1,007,000	79,180
Total	710,700	38,481	167,800	7,673	10,735,400	296,785

Lake fisheries of the United States, 1934—Continued

CATCH: BY LAKES

Species	Lake Ontario		Lake Erie			
	New York		New York		Pennsylvania	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	152,700	$10,725	459,400	$27,560	2,131,600	$101,215
Bowfin	500	5				
Burbot	7,500	205	2,900	29	200	4
Carp	17,000	281	18,100	910	1,900	57
Catfish and bullheads	72,300	5,740	2,300	178	3,700	197
Cisco			10,100	1,000	70,000	7,000
Eels	64,900	1,970			400	8
Lake herring	126,300	11,360				
Lake trout	13,600	1,750	100	10	300	30
Mooneye			200	3		
Pike or pickerel (jacks)	14,900	1,045				
Rock bass	5,600	114	500	30		
Sheepshead					10,500	210
Sturgeon	16,400	4,500	7,100	1,989	1,000	330
Sucker "mullet"	47,300	955	44,600	2,010	23,700	590
Sunfish	17,900	364				
White bass			2,400	78	55,700	2,230
Whitefish:						
Common	83,600	10,040	34,600	4,840	462,900	64,440
Menominee	200	12				
Yellow perch	51,400	3,105	118,700	4,472	798,300	30,580
Yellow pike	24,500	2,680	13,900	962	12,100	1,210
Total	716,600	54,851	714,900	44,071	3,572,300	208,101

Species	Lake Erie—Continued					
	Ohio		Michigan		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	5,765,100	$305,548			8,356,100	$434,323
Bowfin	5,400	108			5,400	108
Burbot	247,600	5,945	2,100	$50	252,800	6,028
Carp	1,061,800	20,175	398,700	7,574	1,480,500	28,716
Catfish and bullheads	497,200	30,686	64,400	3,283	567,600	34,344
Cisco	30,100	1,204	800	34	111,000	9,238
Eels					400	8
Goldfish	60,100	450	7,700	58	67,800	508
Lake trout			800	87	1,200	127
Mooneye	24,400	244	300	3	24,900	250
Pike or pickerel (jacks)			500	20	500	20
Rock bass			2,700	82	3,200	112
Sauger	737,900	32,467	47,400	2,080	785,300	34,547
Sheepshead	2,157,700	36,681	50,000	848	2,218,200	37,739
Sturgeon	10,400	2,081			18,500	4,400
Sucker "mullet"	853,300	17,066	95,100	1,899	1,016,700	21,565
White bass	616,400	22,185	13,200	474	687,700	24,967
Whitefish, common	278,900	36,546	1,000	136	777,400	105,962
Yellow perch	13,252,500	542,638	49,900	2,146	14,219,400	579,836
Yellow pike	1,167,200	88,713	52,700	3,999	1,245,900	94,884
Mussel shells [1]	904,000	13,560	64,700	1,126	968,700	14,680
Pearls and slugs [1]		457		449		906
Total	27,670,000	1,156,754	852,000	24,342	32,809,200	1,433,268

[1] From tributary streams.

Lake fisheries of the United States, 1934—Continued

CATCH: BY LAKES—Continued

Species	Lake Huron		Lake Michigan			
	Michigan		Michigan		Indiana	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	3,100	$31				
Buffalofish					1,000	$45
Burbot	2,100	21	7,800	$161		
Carp	1,015,200	20,304	10,200	102	2,400	72
Catfish and bullheads	50,800	2,540	3,300	165		
Chubs	413,700	37,232	973,900	97,390	352,300	33,500
Lake herring	4,371,300	87,434	1,063,400	31,880	50,000	1,700
Lake trout	1,521,500	174,990	2,365,100	295,640	88,400	9,300
Mooneye	300	6				
Pike or pickerel (jacks)	7,500	604	14,500	1,175		
Rock bass	12,800	1,020	1,400	112		
Sauger	73,200	8,056	31,300	3,552		
Sheepshead	4,300	129	9,300	279		
Smelt			15,600	780		
Steelhead trout					1,600	250
Sucker "mullet"	2,198,100	57,160	1,276,500	24,400	600	18
White bass	100	4	100	4		
Whitefish:						
Common	2,565,800	333,513	1,931,200	231,744	3,900	470
Menominee	52,600	3,155	105,400	5,270		
Yellow perch	519,400	33,600	285,800	22,878	50,100	4,028
Yellow pike	1,615,400	193,814	157,400	18,800	1,300	140
Mussel shells [1]	84,400	1,210	1,595,000	29,924	150,000	2,250
Pearls and slugs [1]		40		931		
Total	14,511,600	954,863	9,847,200	765,187	701,600	51,773

Species	Lake Michigan—Continued					
	Illinois		Wisconsin		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Buffalofish					1,000	$45
Burbot			32,200	$322	40,000	483
Carp			1,308,500	16,358	1,321,100	16,532
Catfish and bullheads			48,900	3,185	52,200	3,350
Chubs	827,700	$65,300	4,108,300	369,725	6,262,200	565,915
Lake herring	50,700	1,000	5,248,300	91,880	6,412,400	126,460
Lake trout	225,200	21,800	2,590,400	309,800	5,269,100	636,540
Pike or pickerel (jacks)			65,400	5,260	79,900	6,435
Rock bass					1,400	112
Sauger					31,300	3,552
Sheepshead					9,300	279
Smelt			1,013,700	15,300	1,029,300	16,080
Steelhead trout					1,600	250
Sucker "mullet"			785,700	27,360	2,062,800	51,778
White bass					100	4
Whitefish:						
Common	700	84	246,000	34,400	2,181,800	266,698
Menominee			47,500	2,874	152,900	8,144
Yellow perch	102,400	3,600	817,900	45,000	1,256,200	75,506
Yellow pike			4,000	434	162,700	19,374
Crawfish			35,600	3,200	35,600	3,200
Mussel shells [1]			336,300	3,260	2,081,300	35,434
Pearls and slugs [1]						931
Total	1,206,700	91,784	16,688,700	928,358	28,444,200	1,837,102

[1] From tributary streams.

Lake fisheries of the United States, 1934—Continued

CATCH: BY LAKES—Continued

Species	Lake Superior					
	Michigan		Wisconsin		Minnesota	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot	1,800	$18				
Carp	1,400	14				
Catfish and bullheads	300	18				
Chubs	173,500	15,627	258,500	$20,675	40,800	$4,124
Lake herring	2,067,700	31,020	2,946,400	44,196	8,016,600	139,729
Lake trout	2,425,500	297,760	611,100	58,054	269,700	30,545
Pike or pickerel (jacks)	1,900	152	3,700	221	200	12
Rock bass	200	16				
Sauger	2,100	231				
Sucker "mullet"	94,900	1,900	69,500	696	300	6
Whitefish:						
Common	392,800	62,852	90,800	9,073	9,600	1,345
Menominee	8,500	502	13,000	517	1,800	127
Yellow perch	4,100	325	600	31		
Yellow pike	7,200	1,102	18,700	1,866		
Total	5,181,900	411,537	4,012,300	135,329	8,339,000	175,888

Species	Lake Superior—Total		Lake of the Woods, Rainy Lake, and Namakan Lake		Total, all lakes	
			Minnesota			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike					8,508,800	$445,048
Bowfin					9,000	144
Buffalofish					1,000	45
Burbot	1,800	$18	91,300	$230	395,500	6,985
Carp	1,400	14	11,300	113	3,846,500	65,960
Catfish and bullheads	300	18	46,000	1,839	789,200	47,831
Chubs	472,800	40,426	100	1	7,148,800	643,574
Cisco					111,000	9,238
Crappie			1,000	73	1,000	73
Eels					65,300	1,978
Goldfish					67,800	508
Lake herring	13,030,700	214,945			23,940,700	440,199
Lake trout	3,306,300	386,359			10,111,700	1,199,766
Mooneye			500	6	25,700	262
Pike or pickerel (jacks)	5,800	385	450,200	9,686	558,800	18,175
Rock bass	200	16			23,200	1,374
Sauger	2,100	231	282,500	11,299	1,174,400	57,685
Sheepshead					2,231,800	38,147
Smelt					1,029,300	16,080
Steelhead trout					1,600	250
Sturgeon			1,600	371	36,500	9,271
Sucker "mullet"	164,700	2,602	126,900	1,647	5,616,500	135,707
Sunfish					17,900	364
Tullibees			155,500	389	155,500	389
White bass					687,900	24,975
Whitefish:						
Common	493,200	73,270	174,200	14,085	6,276,000	803,568
Menominee	23,300	1,146			229,000	12,457
Yellow perch	4,700	356	48,300	1,978	16,099,400	694,381
Yellow pike	25,900	2,968	1,007,000	79,180	4,081,400	392,900
Crawfish					35,600	3,200
Mussel shells [1]					3,134,400	51,324
Pearls and slugs [1]						1,877
Total	17,533,200	722,754	2,396,400	120,897	96,411,200	5,123,735

[1] From tributary streams.

Industries related to the fisheries of the Lake States, 1934

OPERATING UNITS, SALARIES, AND WAGES

Items	New York	Pennsylvania	Ohio	Michigan	Indiana and Illinois	Wisconsin	Minnesota	Total
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged, on vessels			12	3				15
Vessels, motor			7	1				8
Net tonnage			93	21				114
Wholesale and manufacturing:								
Establishments	15	7	48	58	56	43	11	238
Persons engaged:								
Proprietors	13	9	45	45	26	29	6	173
Salaried employees	26	7	72	81	227	74	34	521
Wage earners:								
Average for season	109	73	442	434	458	568	89	2,173
Average for year	64	28	239	190	383	201	47	1,152
Paid to salaried employees	$36,186	$18,752	$175,880	$136,311	$561,706	$83,855	$38,466	$1,051,156
Paid to wage earners	$74,940	$31,187	$302,250	$196,739	$535,691	$201,532	$49,384	$1,391,723
Total salaries and wages	$111,126	$49,939	$478,130	$333,050	$1,097,397	$285,387	$87,850	$2,442,879
Fishermen manufacturing				72		121	342	535

PRODUCTS MANUFACTURED

Item	New York		Pennsylvania		Ohio		Michigan	
By manufacturing establishments:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Carp, smoked—pounds					4,600	$950	(1)	(1)
Chubs, smoked—do	(1)	(1)			115,400	21,750	500,600	$132,364
Cisco, smoked—do					(1)	(1)		
Lake herring:								
Fresh fillets—do							(1)	(1)
Salted—do							1,462,900	54,103
Smoked—do	(1)	(1)					(1)	(1)
Lake trout:								
Fresh fillets—do			(1)	(1)				
Smoked—do					3,500	1,175	62,230	13,545
Pike:								
Fresh fillets—do	194,326	$37,721	272,256	$50,721	877,288	162,443		
Frozen fillets—do	(1)	(1)	91,954	17,243	287,157	50,621		
Salmon:								
Smoked—do	(1)	(1)			23,800	5,860	(1)	(1)
Sturgeon, smoked—do	(1)	(1)			12,160	8,605		
Tullibees, smoked—do	(1)	(1)			249,400	43,860	(1)	(1)
White bass,								
Fresh fillets—do			(1)	(1)	18,173	2,571		
Frozen fillets—do			(1)	(1)	7,108	794		
Whitefish, smoked—do	(1)	(1)			57,100	11,975	50,530	10,720
Yellow perch:								
Fresh fillets—do	22,670	4,770	69,611	13,210	1,148,346	200,028	(1)	(1)
Frozen fillets—do			9,587	1,780	207,123	35,186		
Unclassified products:								
Fillets, fresh and frozen—pounds	(2)	(2)	[3] 6,440	[3] 1,082	(2)	(2)	[4] 98,725	[4] 10,063
Smoked—do	(2)	(2)			(2)	(2)	[5] 188,540	[6] 48,196
Miscellaneous	[9] 237,600	[9] 51,960			[10] 27,723	[10] 5,543		
Total	454,596	94,451	449,848	84,036	3,038,878	551,361	2,363,525	268,991
By fishermen:								
Lake herring, salted—pounds							251,300	8,795
Lake trout, salted—do							25,000	1,240
Total—do							276,300	10,035
Grand total—do	454,596	94,451	449,848	84,036	3,038,878	551,361	2,639,825	279,026

See footnotes at end of table.

Industries related to the fisheries of the Lake States, 1934—Continued

PRODUCTS MANUFACTURED—Continued

Item	Illinois		Wisconsin		Minnesota	
By manufacturing establishments:						
Alewives:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Pickled ..... pounds	202, 500	$28, 750			[1]	[1]
Spiced ..... do			383, 500	$54, 925		
Carp, smoked ..... do	[1]	[1]				
Chubs, smoked ..... do	1, 653, 290	379, 319	901, 297	176, 692	23, 600	$4, 160
Cisco, smoked ..... do	17, 545	4, 564				
Lake herring:						
Fresh fillets ..... do			136, 610	12, 761		
Salted ..... do			2, 393, 180	78, 652		
Smoked ..... do	[1]	[1]	675, 000	44, 250	[1]	[1]
Lake trout:						
Fresh fillets ..... do	[1]	[1]	9, 824	2, 141		
Smoked ..... do	78, 256	19, 128	177, 120	35, 574	[1]	[1]
Pike:						
Fresh fillets ..... do	680, 850	139, 003	122, 339	28, 003		
Frozen fillets ..... do	[1]	[1]				
Salmon:						
Smoked ..... do	628, 400	219, 625	77, 977	12, 850	[1]	[1]
Kippered ..... do	24, 454	7, 850			[1]	[1]
Sturgeon, smoked ..... do	3, 157	2, 479				
Tullibees, smoked ..... do	91, 444	17, 423	[1]	[1]	[1]	[1]
White bass, fresh fillets ..... do	[1]	[1]				
Whitefish, smoked ..... do	[1]	[1]	[1]	[1]	[1]	[1]
Yellow perch:						
Fresh fillets ..... do	1, 243, 739	246, 700	176, 193	38, 306		
Frozen fillets ..... do	[1]	[1]				
Unclassified products:						
Fillets, fresh and frozen ..... do	[5] 152, 817	[5] 30, 691	[2]	[2]		
Smoked ..... do	[7] 30, 886	[7] 6, 623	[8] 41, 764	[8] 6, 702	[2]	[2]
Miscellaneous				[11] 61, 855		[12] 38, 170
Total	4, 807, 338	1, 102, 155		552, 711		42, 330
By fishermen:						
Chubs, smoked ..... pounds			26, 000	4, 940		
Lake herring, salted ..... do			892, 540	31, 425	600, 000	21, 000
Lake trout, smoked ..... do			2, 500	450		
Total ..... do			921, 040	36, 815	600, 000	21, 000
Grand total ..... do	4, 807, 338	1, 102, 155		589, 526		63, 330

[1] This item has been included under "Unclassified products."
[2] The production of this item is included under "Miscellaneous."
[3] Includes fresh fillets of lake trout, sheepshead, white bass and whitefish; and frozen fillets of sheepshead and white bass.
[4] Includes fresh fillets of lake herring and yellow perch; and frozen fillets of lake herring.
[5] Includes fresh fillets of lake trout, white bass and whitefish; and frozen fillets of pike and yellow perch.
[6] Includes smoked carp, lake herring, mackerel, menominee, salmon, and tullibees.
[7] Includes smoked buffalofish, carp, lake herring, sablefish, shad, and whitefish.
[8] Includes smoked carp, tullibees, and whitefish.
[9] Includes frozen fillets of pike; and smoked butterfish, chubs, eels, lake herring, salmon, sturgeon, tullibees, and whitefish.
[10] Includes fresh and frozen fillets of sheepshead; and smoked cisco and sablefish.
[11] Includes fresh fillets of whitefish; spiced chubs and sea herring; Bismarck herring; canned whitefish caviar; burbot liver oil; and mussel-shell products.
[12] Includes smoked lake herring, lake trout, salmon, tullibees, and whitefish; kippered salmon; pickled alewives; and burbot liver oil.

NOTE.—The total value of the manufactured products for the Lake States was as follows: By manufacturing establishments, $2,696,035; and by fishermen, $67,850. Some of the above products may have been manufactured from products imported from another State or country; therefore, they cannot be correlated directly with the catch within the State. Of the total number of persons engaged in the preparation of fishermen's manufactured products, 224 have also been included as fishermen and 6 of the persons shown on transporting craft have also been included as fishermen. This should be considered when computing the total number of persons in the fishery industries exclusive of duplication.

Lake fisheries of the United States and Canada, 1933

CATCH: BY LAKES

Species	Lake Ontario			Lake Erie		
	United States	Canada	Total	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Blue pike	226,800	62,000	288,800	8,786,400	4,151,600	12,938,000
Bowfin	700	(1)	700	400	(1)	400
Burbot	700	(1)	700	251,800	(1)	251,800
Carp	6,300	98,300	104,600	2,067,300	580,700	2,648,000
Catfish and bullheads	68,600	192,000	260,600	996,900	100,000	1,096,900
Cisco				135,500	177,700	313,200
Eels	40,200	65,900	106,100			
Goldfish				99,500	(1)	99,500
Lake herring	41,700	780,300	822,000			
Lake trout	12,400	353,200	365,600	4,500	1,500	6,000
Mooneye				5,800	(1)	5,800
Pike or pickerel (jacks)	2,900	191,800	194,700	5,900	84,900	90,800
Rock bass	1,400	(1)	1,400	3,400	(1)	3,400
Sauger				2,218,600	(1)	2,218,600
Sheepshead				3,006,800	(1)	3,006,800
Sturgeon	13,300	3,600	16,900	6,200	25,000	31,200
Sucker "mullet"	23,100	(1)	23,100	1,524,800	(1)	1,524,800
Sunfish	5,600	(1)	5,600			
White bass	800	(1)	800	394,400	(1)	394,400
Whitefish, common	40,400	473,600	514,000	997,200	710,000	1,707,200
Yellow perch	34,700	109,200	143,900	3,434,500	2,729,000	6,163,500
Yellow pike	7,200	24,500	31,700	1,180,900	249,400	1,430,300
Mussel shells				1,066,000	(1)	1,066,000
Miscellaneous		230,200	230,200		1,421,800	1,421,800
Total	526,800	2,584,600	3,111,400	26,186,800	10,231,600	36,418,400

Species	Lake Huron			Lake Michigan	Lake Superior		
	United States	Canada	Total	United States	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bowfin	100	(1)	100				
Buffalofish				1,400			
Burbot	2,700	(1)	2,700	55,500	3,600	(1)	3,600
Carp	971,900	20,700	992,600	918,200	100	2,400	2,500
Catfish and bullheads	62,000	3,400	65,400	46,400			
Chubs	597,700	997,700	1,595,400	4,035,900	525,200	673,800	1,199,000
Lake herring	2,409,700	333,400	2,743,100	4,026,500	6,793,700	1,070,000	7,863,700
Lake trout	1,905,400	3,159,000	5,064,400	5,267,800	2,576,300	968,300	3,544,600
Pike or pickerel (jacks)	16,400	151,700	168,100	39,900	11,900	12,900	24,800
Rock bass	13,000	(1)	13,000	1,000			
Sauger	82,400	(1)	82,400	10,200	300	(1)	300
Sheepshead	2,700	(1)	2,700	14,400			
Smelt				909,300			
Steelhead trout				3,300			
Sturgeon		21,900	21,900			3,600	3,600
Sucker "mullet"	1,924,200	(1)	1,924,200	1,739,300	198,400	(1)	198,400
White bass				100			
Whitefish:							
Common	3,237,700	2,042,600	5,280,300	2,468,100	483,100	245,000	728,100
Menominee	61,100	(1)	61,100	131,200	27,900	(1)	27,900
Yellow perch	422,700	125,600	548,300	1,006,100	6,300	100	6,400
Yellow pike	1,640,900	455,500	2,096,400	169,600	26,500	87,800	114,300
Crawfish				30,000			
Mussel shells				808,200			
Miscellaneous		491,100	491,100			43,800	43,800
Total	13,350,600	7,802,600	21,153,200	21,682,400	10,653,300	3,107,700	13,761,000

1 Where there has been a Canadian catch of these species it is included under Miscellaneous.

Lake fisheries of the United States and Canada, 1933—Continued

CATCH: BY LAKES—Continued

Species	Namakan Lake			Rainy Lake		
	United States	Canada	Total	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Burbot	16,300	(1)	16,300	24,800	(1)	24,800
Carp					300	300
Chubs	19,800	(1)	19,800	5,000	2,400	7,400
Crappie	200	(1)	200			
Pike or pickerel	27,300	3,200	30,500	40,800	219,200	260,000
Sturgeon		1,800	1,800	600	(1)	600
Sucker "mullet"	13,200	(1)	13,200	12,100	(1)	12,100
Tullibees				13,400	(1)	13,400
Whitefish, common	9,200	11,700	20,900	120,700	17,400	138,100
Yellow perch	1,900	(1)	1,900	2,600	7,900	10,500
Yellow pike	36,200	10,600	46,800	61,500	201,100	262,600
Miscellaneous					2,900	2,900
Total	124,100	27,300	151,400	281,500	451,200	732,700

Species	Lake of the Woods			Total, all lakes		
	United States	Canada	Total	United States	Canada	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Blue pike		800	800	9,013,200	4,214,400	13,227,600
Bowfin				1,200	(1)	1,200
Buffalofish	100	(1)	100	1,500	(1)	1,500
Burbot	64,000	(1)	64,000	419,400	(1)	419,400
Carp	10,600	2,700	13,300	3,974,400	705,100	4,679,500
Catfish and bullheads	32,200	7,300	39,500	1,206,100	302,700	1,508,800
Chubs				5,183,600	1,673,900	6,857,500
Cisco				135,500	(1)	135,500
Crappie	2,400	(1)	2,400	2,600	177,700	180,300
Eels				40,200	65,900	106,100
Goldfish				99,500	(1)	99,500
Lake herring				13,271,600	2,183,700	15,455,300
Lake trout	200	25,100	25,300	9,766,600	4,507,100	14,273,700
Mooneye	100	(1)	100	5,900	(1)	5,900
Pike or pickerel	260,200	433,900	694,100	405,300	1,097,600	1,502,900
Rock bass				18,800	(1)	18,800
Sauger	242,500	2,200	244,700	2,554,000	2,200	2,556,200
Sheepshead				3,023,900	(1)	3,023,900
Smelt				909,300	(1)	909,300
Steelhead trout				3,300	(1)	3,300
Sturgeon	800	100	900	20,900	56,000	76,900
Sucker "mullet"	168,300	400	168,700	5,603,400	400	5,603,800
Sunfish				5,600	(1)	5,600
Tullibees	293,300	27,200	320,500	306,700	27,200	333,900
White bass				395,300	(1)	395,300
Whitefish:						
Common	13,300	411,000	424,300	7,369,700	3,911,300	11,281,000
Menominee				220,200	(1)	220,200
Yellow perch	40,000	8,900	48,900	4,948,800	2,980,700	7,929,500
Yellow pike	670,600	773,900	1,444,500	3,793,400	1,802,800	5,596,200
Crawfish				30,000	(1)	30,000
Mussel shells				1,874,200	(1)	1,874,200
Miscellaneous		72,600	72,600		2,262,400	2,262,400
Total	1,798,600	1,766,100	3,564,700	74,604,100	25,971,100	100,575,200

1 Where there has been a Canadian catch of these species it is included under Miscellaneous.

Lake fisheries of the United States, 1933

CATCH: BY STATES

Species	New York		Pennsylvania		Ohio	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	530,800	$28,810	1,747,400	$101,150	6,735,000	$282,869
Bowfin	700	28				
Burbot	1,000	62	1,000	10	250,000	5,502
Carp	6,300	150	4,100	91	1,283,800	24,390
Catfish and bullheads	69,200	6,430	9,600	551	914,200	51,956
Cisco	9,100	1,170	104,000	10,360	22,400	895
Eels	40,200	1,410				
Goldfish					79,700	599
Lake herring	41,700	3,700				
Lake trout	16,500	1,725	400	39		
Mooneye					5,400	54
Pike or pickerel (jacks)	2,900	885				
Rock bass	1,500	43				
Sauger					2,151,800	83,921
Sheepshead			17,100	365	2,851,700	48,478
Sturgeon	19,000	5,535	500	110		
Sucker "mullet"	39,500	1,415	22,600	455	1,341,200	20,119
Sunfish	5,600	154				
White bass	2,700	378	46,800	1,740	345,700	11,755
Whitefish, common	172,300	31,265	664,300	92,500	197,100	25,618
Yellow perch	80,000	6,890	277,900	15,290	3,024,500	111,906
Yellow pike	13,900	1,530	19,800	2,130	1,054,800	72,781
Mussel shells					1,066,000	13,475
Pearls and slugs						515
Total	1,052,900	91,580	2,915,500	224,791	21,323,300	754,833

Species	Michigan		Indiana		Illinois	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	500	$5				
Buffalofish			1,400	$60		
Burbot	15,600	318				
Carp	1,782,100	34,914	3,000	120		
Catfish and bullheads	135,900	6,729				
Chubs	1,051,900	90,717	226,000	18,100	640,000	$51,200
Goldfish	19,800	149				
Lake herring	3,618,300	65,623	78,000	3,120	72,000	2,200
Lake trout	6,129,200	661,620	90,000	8,100	262,000	23,600
Mooneye	400	3				
Pike or pickerel (jacks)	39,300	3,067				
Rock bass	17,300	1,208				
Sauger	159,700	11,977				
Sheepshead	154,800	2,843				
Smelt	9,300	51				
Steelhead trout			3,300	460		
Sucker "mullet"	3,153,700	62,191	2,000	80		
White bass	100	4				
Whitefish:						
Common	5,775,800	687,929	4,800	530	1,800	210
Menominee	170,800	13,138				
Yellow perch	730,300	46,234	25,000	1,500	66,200	4,000
Yellow pike	1,910,400	191,294	4,000	500		
Mussel shells			150,000	1,900		
Total	24,875,200	1,880,014	587,500	34,470	1,042,000	81,210

Species	Wisconsin		Minnesota		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike					9,013,200	$412,829
Bowfin					1,200	33
Buffalofish			100	$1	1,500	61
Burbot	46,700	$470	105,100	388	419,400	6,750
Carp	884,500	13,300	10,600	106	3,974,400	73,071
Catfish and bullheads	45,000	2,700	32,200	1,935	1,206,100	70,301
Chubs	3,150,000	252,000	115,700	9,143	5,183,600	421,160
Cisco					135,500	12,425
Crappie			2,600	238	2,600	238
Eels					40,200	1,410
Goldfish					99,500	748
Lake herring	4,259,000	63,850	5,202,600	78,563	13,271,600	217,056
Lake trout	3,041,000	298,500	227,500	24,146	9,766,600	1,017,730
Mooneye			100	1	5,900	58
Pike or pickerel (jacks)	34,800	2,720	328,300	9,644	405,300	16,316
Rock bass					18,800	1,251
Sauger			242,500	9,703	2,554,000	105,601

NOTE.—Statistics of operating units were not obtained for 1933.

Lake fisheries of the United States, 1933—Continued

CATCH: BY STATES—Continued

Species	Wisconsin		Minnesota		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Sheepshead	300	$9			3,023,900	$51,695
Smelt	900,000	18,000			909,300	18,051
Steelhead trout					3,300	460
Sturgeon			1,400	$281	20,900	5,926
Sucker "mullet"	850,600	23,320	193,800	2,065	5,603,400	109,645
Sunfish					5,600	154
Tullibees			306,700	846	306,700	846
White bass					395,300	13,877
Whitefish:						
Common	404,000	47,100	149,600	11,174	7,369,700	896,326
Menominee	45,000	3,300	4,400	233	220,200	16,671
Yellow perch	700,400	35,025	44,500	1,822	4,948,800	222,667
Yellow pike	22,200	2,120	768,300	60,487	3,793,400	330,842
Crawfish	30,000	2,400			30,000	2,400
Mussel shells	658,200	7,900			1,874,200	23,275
Pearls and slugs						515
Total	15,071,700	772,714	7,736,000	210,776	74,604,100	4,050,388

CATCH: BY LAKES

Species	Lake Ontario		Lake Erie			
	New York		New York		Pennsylvania	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	226,800	$13,460	304,000	$15,350	1,747,400	$101,150
Bowfin	700	28				
Burbot	700	35	300	27	1,000	10
Carp	6,300	150			4,100	91
Catfish and bullheads	68,600	6,370	600	60	9,600	551
Cisco			9,100	1,170	104,000	10,360
Eels	40,200	1,410				
Lake herring	41,700	3,700				
Lake trout	12,400	1,325	4,100	400	400	39
Pike or pickerel (jacks)	2,900	885				
Rock bass	1,400	42	100	1		
Sheepshead					17,100	365
Sturgeon	13,300	3,805	5,700	1,730	500	110
Sucker "mullet"	23,100	1,200	16,400	215	22,600	455
Sunfish	5,600	154				
White bass	800	48	1,900	330	46,800	1,740
Whitefish, common	40,400	4,840	131,900	26,425	664,300	92,500
Yellow perch	34,700	1,830	45,300	5,060	277,900	15,290
Yellow pike	7,200	730	6,700	800	19,800	2,130
Total	526,800	40,012	526,100	51,568	2,915,500	224,791

Species	Lake Erie					
	Ohio		Michigan		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	6,735,000	$282,869			8,786,400	$399,364
Bowfin			400	$4	400	9
Burbot	250,000	5,502	500	10	251,800	5,549
Carp	1,283,800	24,390	779,400	14,810	2,067,300	39,291
Catfish and bullheads	914,200	51,956	72,500	3,550	996,900	56,117
Cisco	22,400	895			135,500	12,425
Goldfish	79,700	599	19,800	149	99,500	748
Lake trout					4,500	439
Mooneye	5,400	54	400	3	5,800	57
Pike or pickerel (jacks)			5,900	134	5,900	134
Rock bass			3,300	102	3,400	103
Sauger	2,151,800	83,921	66,800	2,605	2,218,600	86,526
Sheepshead	2,851,700	48,478	138,000	2,347	3,006,800	51,190
Sturgeon					6,200	1,840
Sucker "mullet"	1,341,200	20,119	144,600	2,170	1,524,800	22,959
White bass	345,700	11,755			394,400	13,825
Whitefish, common	197,100	25,618	3,900	499	997,200	145,042
Yellow perch	3,024,500	111,906	86,800	3,208	3,434,500	135,464
Yellow pike	1,054,800	72,781	99,600	6,870	1,180,900	82,581
Mussel shells [1]	1,066,000	13,475			1,066,000	13,475
Pearls and slugs [1]		515				515
Total	21,323,300	754,833	1,421,900	36,461	26,186,800	1,067,653

[1] From tributary streams.

Lake fisheries of the United States, 1933—Continued

CATCH: BY LAKES—Continued

Species	Lake Huron		Lake Michigan			
	Michigan		Michigan		Indiana	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	100	$1				
Buffalofish					1,400	$60
Burbot	2,700	27	8,800	$245		
Carp	971,900	19,794	30,700	309	3,000	120
Catfish and bullheads	62,000	3,105	1,400	74		
Chubs	597,700	48,818	319,900	29,809	226,000	18,100
Lake herring	2,409,700	48,190	267,500	8,020	78,000	3,120
Lake trout	1,905,400	190,540	2,434,800	292,170	90,000	8,100
Pike or pickerel (jacks)	16,400	1,304	13,900	1,380		
Rock bass	13,000	1,044	1,000	62		
Sauger	82,400	8,230	10,200	1,112		
Sheepshead	2,700	81	14,100	415		
Smelt			9,300	51		
Steelhead trout					3,300	460
Sucker "mullet"	1,924,200	48,080	966,700	9,673	2,000	80
White bass			100	4		
Whitefish:						
Common	3,237,700	388,490	2,129,500	234,230	4,800	530
Menominee	61,100	3,490	93,200	8,656		
Yellow perch	422,700	29,660	214,900	12,900	25,000	1,500
Yellow pike	1,640,900	164,090	161,400	19,330	4,000	500
Mussel shells [1]					150,000	1,900
Total	13,350,600	954,944	6,677,400	618,440	587,500	34,470

Species	Lake Michigan					
	Illinois		Wisconsin		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Buffalofish					1,400	$60
Burbot			46,700	$470	55,500	715
Carp			884,500	13,300	918,200	13,729
Catfish and bullheads			45,000	2,700	46,400	2,774
Chubs	640,000	$51,200	2,850,000	228,000	4,035,900	327,109
Lake herring	72,000	2,200	3,609,000	54,100	4,026,500	67,440
Lake trout	262,000	23,600	2,481,000	248,100	5,267,800	571,970
Pike or pickerel (jacks)			26,000	2,100	39,900	3,480
Rock bass					1,000	62
Sauger					10,200	1,112
Sheepshead			300	9	14,400	424
Smelt			900,000	18,000	909,300	18,051
Steelhead trout					3,300	460
Sucker "mullet"			770,600	22,120	1,739,300	31,873
White bass					100	4
Whitefish:						
Common	1,800	210	332,000	39,900	2,468,100	274,870
Menominee			38,000	3,000	131,200	11,656
Yellow perch	66,200	4,000	700,000	35,000	1,006,100	53,400
Yellow pike			4,200	420	169,600	20,250
Crawfish			30,000	2,400	30,000	2,400
Mussel shells [1]			658,200	7,900	808,200	9,800
Total	1,042,000	81,210	13,375,500	677,519	21,682,400	1,411,639

Species	Lake Superior					
	Michigan		Wisconsin		Minnesota	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Burbot	3,600	$36				
Carp	100	1				
Chubs	134,300	12,090	300,000	$24,000	90,900	$9,087
Lake herring	941,100	9,413	650,000	9,750	5,202,600	78,563
Lake trout	1,789,000	178,910	560,000	50,400	227,300	24,129
Pike or pickerel (jacks)	3,100	249	8,800	620		
Sauger	300	30				
Sucker "mullet"	118,200	2,268	80,000	1,200	200	3
Whitefish:						
Common	404,700	64,710	72,000	7,200	6,400	733
Menominee	16,500	992	7,000	300	4,400	233
Yellow perch	5,900	466	400	25		
Yellow pike	8,500	1,004	18,000	1,700		
Total	3,425,300	270,169	1,696,200	95,195	5,531,800	112,748

[1] From tributary streams.

Lake fisheries of the United States, 1933—Continued

CATCH: BY LAKES—Continued

Species	Lake Superior		Lake of the Woods, Rainy Lake, and Namakan Lake		Total, all lakes	
	Total		Minnesota			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike					9,013,200	$412,829
Bowfin					1,200	33
Buffalofish			100	$1	1,500	61
Burbot	3,600	$36	105,100	388	419,400	6,750
Carp	100	1	10,600	106	3,974,400	73,071
Catfish and bullheads			32,200	1,935	1,206,100	70,301
Chubs	525,200	45,177	24,800	56	5,183,600	421,160
Cisco					135,500	12,425
Crappie			2,600	238	2,600	238
Eels					40,200	1,410
Goldfish					99,500	748
Lake herring	6,793,700	97,726			13,271,600	217,056
Lake trout	2,576,300	253,439	200	17	9,766,600	1,017,730
Mooneye			100	1	5,900	58
Pike or pickerel (jacks)	11,900	869	328,300	9,644	405,300	16,316
Rock bass					18,800	1,251
Sauger	300	30	242,500	9,703	2,554,000	105,601
Sheepshead					3,023,900	51,695
Smelt					909,300	18,051
Steelhead trout					3,300	460
Sturgeon			1,400	281	20,900	5,926
Sucker "mullet"	198,400	3,471	193,600	2,062	5,603,400	109,645
Sunfish					5,600	154
Tullibees			306,700	846	306,700	846
White bass					395,300	13,877
Whitefish:						
Common	483,100	72,643	143,200	10,441	7,369,700	896,326
Menominee	27,900	1,525			220,200	16,671
Yellow perch	6,300	491	44,500	1,822	4,948,800	222,667
Yellow pike	26,500	2,704	768,300	60,487	3,793,400	330,842
Crawfish					30,000	2,400
Mussel shells [1]					1,874,200	23,275
Pearls and slugs [1]						515
Total	10,653,300	478,112	2,204,200	98,028	74,604,100	4,050,388

[1] From tributary streams.

FISHERIES OF THE MISSISSIPPI RIVER AND TRIBUTARIES[13]

The most recent complete catch statistics of the fisheries for the States of the Mississippi River and tributaries are those collected for the year 1931. The yield of fishery products in that year amounted to 82,382,523 pounds, valued at $2,897,357, which was a decrease of 22 percent in quantity and 36 percent in value as compared with the quantity and value of the catch in 1922 when the most recent preceding survey was made. Detailed statistics of the fisheries of the Mississippi River and tributaries for 1931 appear in Fishery Industries of the United States, 1932 by R. H. Fiedler, appendix III to the Report of the Commissioner of Fisheries for the fiscal year 1933. A summary of these fisheries in 1931 as well as certain data for 1934 appear in the following tables.

[13] For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of the document entitled "Statistical survey procedure."

Fisheries of the Mississippi River and tributaries, 1931

OPERATING UNITS: BY STATES

Item	Alabama	Arkansas	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Minnesota
Fishermen:									
On boats and shore:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	104	1,463	708	20	245	35	89	1,402	160
Casual	131	1,524	1,318	1,735	648	88	440	3,108	578
Total	235	2,987	2,026	1,755	893	123	529	4,510	738
Boats:									
Motor	32	907	676	544	309	18	92	1,225	65
Other	190	2,359	957	1,189	457	123	420	2,369	446
Apparatus:									
Haul seines		16	127	50	133		24	377	113
Length, yards		7,308	33,975	5,170	36,339		2,057	85,166	49,968
Anchor gill nets		4						74	9
Square yards		2,800						17,400	9,999
Trammel nets		31	28	3		90		78	
Square yards		3,899	4,890	360		9,026		19,696	
Lines:									
Trot	449	5,327	1,312	320	1,158	17	627	5,757	186
Hooks	35,980	455,000	124,715	16,767	186,250	360	37,395	1,392,200	41,800
Pound nets					2				27
Fyke nets	610	5,346	9,852	335	1,981	189	1,231	5,908	74
Dip nets			22		10			159	
Traps:									
Crawfish								18	
Shrimp								88	
Baskets			3,769						
Mussel dredges		426	14						
Yards at mouth		286	10						
Crowfoot bars	168	1,038	840	1,092	464		256	10	192
Tongs		159		72				5	
Rakes		70							
Forks		102	33	1,278		29		5	
Grabs								2,232	

Item	Mississippi	Missouri	Nebraska	Ohio	Oklahoma	South Dakota	Tennessee	Texas	Wisconsin	Total
Fishermen:										
On boats and shore:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	211	177			5		327	5	202	5,153
Casual	198	170	299	49	19	67	206	41	112	10,731
Total	409	347	299	49	24	67	533	46	314	15,884
Boats:										
Motor	138	84	30			2	138	6	160	4,426
Other	329	304	187	49	18	34	467	42	180	10,120
Apparatus:										
Haul seines	16	47	12	2	2	11			83	1,013
Length, yards	6,885	5,668	906	180	60	1,948			20,149	255,779
Anchor gill nets	4	1			3				6	101
Square yards	800	160			990				13,488	45,637
Trammel nets	17	104	115				52			518
Square yards	2,867	14,668	4,833				3,560			63,799
Lines:										
Hand							67			67
Hooks							67			67
Trot	847	516		19	29	18	464	80	3	17,129
Hooks	72,155	34,600		900	1,075	3,600	41,690	14,500	125	2,459,112
Pound nets									345	374
Fyke nets	2,591	1,872	296	76	85	68	1,735	70	222	32,541
Dip nets										191
Traps:										
Crawfish										18
Shrimp	350									438
Baskets										3,769
Spears							12			12
Mussel dredges										440
Yards at mouth										296
Crowfoot bars							230		190	4,480
Tongs		9								245
Rakes										70
Forks										1,447
Grabs										2,232

Fisheries of the Mississippi River and tributaries, 1931—Continued

CATCH: BY STATES

Species	Alabama		Arkansas		Illinois		Indiana	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			700	$28	8,308	$241		
Buffalofish	21,330	$2,342	2,182,446	131,474	911,609	51,893	85,045	$8,156
Carp	11,000	1,118	808,206	27,268	4,878,744	128,221	157,641	10,162
Catfish and bullheads	81,200	8,850	1,077,343	93,150	647,696	68,890	35,370	5,302
Crappie	9,772	1,004	11,325	227				
Eels					4,985	322		
Mooneye					1,000	20		
Paddlefish or spoonbill cat	3,958	338	93,200	2,159	104,846	5,480	16,492	1,724
Quillback or "American carp"	7,657	875	6,830	676	17,532	608	30,312	1,436
Sheepshead	45,909	4,972	676,358	29,877	177,709	11,321	38,740	3,711
Sturgeon, shovelnose	575	70			39,766	3,448	3,013	292
Sucker "mullet"	5,752	609	3,309	235	25,130	1,087	16,797	1,156
White bass					1,200	92		
Yellow pike							4,550	693
Total	187,153	20,178	4,859,717	285,094	6,818,525	271,623	387,960	32,632
SHELLFISH, ETC.								
Mussel shells	1,635,000	10,132	10,872,790	108,819	7,429,528	82,894	7,328,736	105,632
Pearls				3,137		190		125
Slugs		2,444		14,401		11,835		18,788
Turtles:								
Snapper					14,577	696	500	25
Soft shell							400	20
Total	1,635,000	12,576	10,872,790	126,357	7,444,105	95,615	7,329,636	124,590
Grand total	1,822,153	32,754	15,732,507	411,451	14,262,630	367,238	7,717,596	157,222

Species	Iowa		Kansas		Kentucky		Louisiana [1]	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	91,825	$3,759					5,715	$114
Buffalofish	746,615	59,705	24,325	$2,222	164,558	$14,429	8,784,314	263,261
Carp	1,594,244	80,134	117,489	10,956	113,461	8,124	204,743	4,127
Catfish and bullheads	467,340	48,593	770	111	131,777	17,043	6,602,987	528,579
Eels	325	15					200	6
Garfish							72,450	791
Mooneye	1,100	28			990	105		
Paddlefish or spoonbill cat	9,400	638			18,322	1,617	495,544	21,508
Pike or pickerel	4,700	470						
Quillback or "American carp"	60,450	1,339	100	11	11,355	984	20,700	431
Sauger					2,365	451		
Sheepshead	343,449	17,619			52,560	6,762	1,976,600	39,577
Sturgeon, shovelnose	17,650	1,663	175	24	2,967	380		
Sucker "mullet"	36,550	822			10,294	1,331		
Yellow pike					70	18		
Total	3,373,648	214,785	142,859	13,324	508,719	51,244	18,163,253	858,394
SHELLFISH, ETC.								
Crawfish							29,248	292
Shrimp							38,503	2,423
Mussel shells	4,366,219	65,685	312,562	2,713	1,113,032	8,786	50,000	375
Pearls		7,244						
Slugs		13,924		636		852		
Frogs							872,651	130,612
Terrapin	19,100	377						
Turtles:								
Snapper	2,000	40					58,013	2,244
Soft shell	17,000	340					1,700	34
Total	4,404,319	87,610	312,562	3,349	1,113,032	9,638	1,050,115	135,980
Grand total	7,777,967	302,395	455,421	16,673	1,621,751	60,882	19,213,368	994,374

[1] According to information furnished by the Louisiana Department of Conservation, the Louisiana catch from fresh-water sources during 1934 was as follows: Buffalofish, 8,579,200 pounds, valued at $428,957; catfish or bullheads, 3,070,000 pounds, valued at $245,000; paddlefish or spoonbill cat, 373,900 pounds, valued at $26,175; sheepshead, 249,100 pounds, valued at $12,928; diamond-back terrapin, 563 dozen, valued at $7,756; and turtles, 822,300 pounds, valued at $103,114.

Fisheries of the Mississippi River and tributaries, 1931—Continued

CATCH: BY STATES—Continued

Species	Minnesota		Mississippi		Missouri		Nebraska	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	16,598	$282			17,000	$520		
Buffalofish	257,431	15,092	1,511,126	$63,824	178,991	16,414	18,104	$1,813
Carp	2,151,119	97,756	225,276	6,730	433,117	33,356	93,032	9,305
Catfish and bullheads	53,804	4,841	635,049	42,384	91,430	15,487	34,174	5,135
Eels			250	20	1,055	53		
Minnows					525	209		
Paddlefish or spoonbill cat			158,821	5,879	40,103	2,917		
Quillback or "American carp"	17,246	519	2,157	42	13,672	946		
Sheepshead	152,545	7,938	106,844	2,576	38,186	3,773		
Sturgeon, shovelnose	1,634	115	100	3	17,282	1,703		
Sucker "mullet"	65,273	1,955			2,275	292		
Total	2,715,650	128,498	2,639,623	121,458	833,636	75,670	145,310	16,253
SHELLFISH, ETC.								
Shrimp			10,000	1,500				
Mussel shells	782,630	7,827			94,000	1,193		
Pearls		157						
Slugs		1,174				118		
Turtles, snapper			100	3				
Total	782,630	9,158	10,100	1,503	94,000	1,311		
Grand total	3,498,280	137,656	2,649,723	122,961	927,636	76,981	145,310	16,253

Species	Ohio		Oklahoma		South Dakota		Tennessee	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Black bass							14,000	$1,680
Buffalofish	6,433	$662	21,605	$2,142	38,926	$3,894	478,592	34,244
Carp	14,370	1,543	4,268	425	52,836	2,642	247,841	9,597
Catfish and bullheads	4,380	811	4,935	695	13,500	3,528	271,753	24,750
Crappie					1,392	70	18,652	1,658
Eels							163	25
Paddlefish or spoonbill cat			5,332	533	400	40	5,034	301
Quillback or "American carp"	1,195	119	1,950	195	4,364	220	6,065	843
Sheepshead	1,318	224	1,550	155	697	70	197,670	10,465
Sturgeon, shovelnose	558	72					3,706	393
Sucker "mullet"	2,902	268			2,246	112	8,323	1,119
Sunfish							21,850	1,094
White bass							2,100	106
Yellow pike	325	60						
Total	31,481	3,759	39,640	4,145	114,361	10,576	1,275,749	86,275
SHELLFISH, ETC.								
Mussel shells	154,000	3,005					2,157,000	15,604
Pearls								28
Slugs		308						1,724
Frogs							2,250	270
Terrapin							70	14
Total	154,000	3,313					2,159,320	17,640
Grand total	185,481	7,072	39,640	4,145	114,361	10,756	3,435,069	103,915

Species	Texas		Wisconsin		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Black bass					14,000	$1,680
Bowfin			288,170	$4,355	428,316	9,299
Buffalofish	73,000	$2,190	268,001	13,528	15,772,451	687,288
Carp	6,900	138	777,474	23,800	11,891,761	455,399
Catfish and bullheads	47,800	3,824	65,539	5,825	10,266,847	877,798
Crappie					41,141	2,959
Eels					6,978	441
Garfish					72,450	791
Minnows					525	209
Mooneye					3,090	153
Paddlefish or spoonbill cat					951,452	43,134
Pike or pickerel					4,700	470
Quillback or "American carp"	500	10	66,353	2,032	268,438	11,286
Sauger					2,365	451
Sheepshead	10,300	206	84,409	3,692	3,904,844	142,938
Sturgeon, shovelnose					87,426	8,163
Sucker "mullet"			135,984	3,696	314,835	12,682
Sunfish					21,850	1,094
White bass					3,300	198
Yellow pike					4,945	771
Total	138,500	6,368	1,685,930	56,928	44,061,714	2,257,204

Fisheries of the Mississippi River and tributaries, 1931—Continued

CATCH: BY STATES—Continued

Species	Texas		Wisconsin		Total	
SHELLFISH, ETC.	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crawfish					29, 248	$292
Shrimp					48, 503	3, 923
Mussel shells			959, 200	$8, 946	37, 254, 697	421, 611
Pearls				555		11, 436
Slugs				2, 012		68, 216
Frogs					874, 901	130, 882
Terrapin					19, 170	391
Turtles:						
Snapper					75, 190	3, 008
Soft shell					19, 100	394
Total			959, 200	11, 513	38, 320, 809	640, 153
Grand total	138, 500	$6, 368	2, 645, 130	68, 441	82, 382, 523	2, 897, 357

Industries related to the fisheries of the Mississippi River and tributaries

OPERATING UNITS, SALARIES, AND WAGES, 1931

Item	Arkansas	Illinois	Indiana	Iowa	Kentucky	Louisiana	Minnesota and North Dakota
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged	13				11	5	
Vessels, motor	4				2	2	
Net tonnage	69				15	20	
Wholesale and manufacturing:							
Establishments	6	38	4	61	11	22	13
Persons engaged:							
Proprietors	3	42	1	52	8	24	11
Salaried employees	9	3	5	79	20	14	27
Wage earners:							
Average for season	152	331	140	2, 500	261	70	112
Average for year	72	235	93	2, 179	159	68	112
Paid to salaried employees	$11, 417	$9, 520	$6, 820	$141, 346	$33, 159	$12, 400	$55, 200
Paid to wage earners	$53, 503	$145, 683	$51, 444	$1, 417, 678	$81, 643	$37, 700	$81, 500
Total salaries and wages	$64, 920	$155, 203	$58, 264	$1, 559, 024	$114, 802	$50, 100	$136, 700
Fishermen manufacturing		4	2			200	

Item	Mississippi	Missouri and Oklahoma	Nebraska and Kansas	Ohio and Pennsylvania	Tennessee	Wisconsin	Total
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged							29
Vessels, motor							8
Net tonnage							104
Wholesale and manufacturing:							
Establishments	6	21	3	13	11	8	217
Persons engaged:							
Proprietors	7	24	3	17	9	3	204
Salaried employees	3	125	8	37	15	10	355
Wage earners:							
Average for season	26	328	52	175	90	38	4, 275
Average for year	26	261	52	145	52	29	3, 483
Paid to salaried employees	$16, 000	$291, 874	$17, 400	$95, 878	$34, 884	$12, 998	$738, 896
Paid to wage earners	$22, 382	$202, 944	$45, 580	$138, 817	$38, 177	$24, 483	$2, 341, 534
Total salaries and wages	$38, 382	$494, 818	$62, 980	$234, 695	$73, 061	$37, 481	$3, 080, 430
Fishermen manufacturing	7	3					216

Industries related to the fisheries of the Mississippi River and tributaries—Continued

PRODUCTS MANUFACTURED

Item	Indiana		Iowa		Kansas, Kentucky, Illinois, and Missouri	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:						
Salmon, smoked—pounds			240,000	$48,800		
Sturgeon, smoked—do			162,000	39,140		
Mussel-shell products:						
Buttons [2]—gross			11,422,475	2,849,520	(1)	(1)
Poultry feed [2]—tons	(3)	(3)	6,340	37,514	(1)	(1)
Lime [2]—do			1,600	3,925	(1)	(1)
Unclassified [2]				[4] 102,396		[5] $78,896
Unclassified, smoked—pounds			[6] 83,000	[6] 14,440		
Total				3,095,735		78,896
By fishermen:						
Carp, smoked—pounds					667	67
Paddlefish roe, salted—do	450	$180			900	540
Sheepshead, smoked—do					617	77
Sturgeon:						
Smoked—do					1,333	400
Roe, salted—do					35	32
Total	450	180			3,552	1,116
Grand total	450	180		3,095,735	3,552	80,012

Item	Louisiana		Minnesota and Nebraska		Mississippi		Tennessee, Ohio, and Pennsylvania	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:								
Salmon, smoked—pounds			(1)	(1)			(1)	(1)
Sturgeon, smoked—do			(1)	(1)				
Whitefish, smoked—do			255,000	$47,200				
Unclassified, smoked—do			[7] 66,600	[7] 19,793			[8] 291,500	[8] $77,205
Total			321,600	66,993			[8] 291,500	[8] 77,205
By fishermen:								
Alligator hides—pounds	88,356	$7,363						
Paddlefish roe, salted—do					245	$92		
Total	88,356	7,363			245	92		
Grand total	88,356	7,363	321,600	66,993	245	92	291,500	77,205

[1] The production of this item is included under unclassified products.
[2] Data are for 1934.
[3] A small production of poultry feed has been included with the unclassified mussel-shell products of Kansas, Kentucky, Illinois, and Missouri.
[4] Includes the production of mussel-shell stucco, novelties, and colored shell chips.
[5] Includes the production of mussel-shell buttons, poultry feed, and lime.
[6] Includes the production of smoked buffalofish and tullibees.
[7] Includes the production of smoked eels, salmon, and sturgeon.
[8] Includes the production of smoked buffalofish, butterfish, carp, chubs, lake trout, paddlefish, sablefish, salmon, and tullibees.

NOTE.—Unless otherwise indicated the data are for 1931. The total value of the manufactured products for the States of the Mississippi River and tributaries was as follows: By manufacturing establishments, $3,318,829, and by fishermen, $8,751. Some of the above products may have been manufactured from fishery products imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State.

LAKE PEPIN

Fisheries of Lake Pepin, 1934

OPERATING UNITS: By gear

Item	Haul seines	Anchor gill nets	Trot lines	Fyke nets	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
Regular	12	8		6	14
Casual	44	22	8	9	54
Total	56	30	8	15	68
Boats:					
Motor	16	20	6	15	35
Other	16	12	2	7	31
Apparatus:					
Number	16	38	8	130	
Length, yards	3,720				
Square yards		26,000			
Hooks			800		

CATCH: By gear

Species	Haul seines		Anchor gill nets		Trot lines		Fyke nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	3,000	$60							3,000	$60
Buffalofish	9,000	270	2,500	$75			3,800	$114	15,300	459
Carp	221,000	4,420	100,000	2,000	800	$16	47,500	950	369,300	7,386
Catfish and bullheads	2,600	260	4,300	430	4,000	400	11,200	1,120	22,100	2,210
Eels							100	10	100	10
Mooneye	4,000	80							4,000	80
Sheepshead	5,900	285	900	45	1,000	40	1,200	56	9,000	426
Sucker "mullet"	9,000	160	2,500	50			1,000	20	12,500	230
Turtles:										
Snapper	500	10							500	10
Soft shell	500	10							500	10
Total	255,500	5,555	110,200	2,600	5,800	456	64,800	2,270	436,300	10,881

OPERATING UNITS: By States

Item	Minnesota	Wisconsin	Total for lake
	Number	*Number*	*Number*
Fishermen:			
Regular		14	14
Casual	10	44	54
Total	10	58	68
Boats:			
Motor	7	28	35
Other	4	27	31
Apparatus:			
Haul seines	2	14	16
Length, yards	400	3,320	3,720
Gill nets, anchor		38	38
Square yards		26,000	26,000
Lines, trot	8		8
Hooks	800		800
Fyke nets		130	130

Fisheries of Lake Pepin, 1934—Continued

CATCH: BY STATES

Species	Minnesota		Wisconsin		Total for lake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			3,000	$60	3,000	$60
Buffalofish	1,500	$45	13,800	414	15,300	459
Carp	14,800	296	354,500	7,090	369,300	7,386
Catfish and bullheads	4,400	440	17,700	1,770	22,100	2,210
Eels			100	10	100	10
Mooneye			4,000	80	4,000	80
Sheepshead	3,500	155	5,500	271	9,000	426
Sucker "mullet"	500	10	12,000	220	12,500	230
Turtles:						
Snapper	300	6	200	4	500	10
Soft shell	300	6	200	4	500	10
Total	25,300	958	411,000	9,923	436,300	10,881

LAKE KEOKUK

Fisheries of Lake Keokuk, 1934

OPERATING UNITS: BY GEAR

Item	Haul seines	Anchor gill nets	Trammel nets	Trot lines	Fyke nets	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	12				10	14
Casual	77	6	6	51	59	97
Total	89	6	6	51	69	111
Boats:						
Motor	23	6	6	30	44	60
Other	25			23	34	54
Apparatus:						
Number	29	6	6	93	1,340	
Length, yards	8,000					
Square yards		1,000	300			
Hooks				11,600		

CATCH: BY GEAR

Species	Haul seines		Gill nets		Trot lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	1,000	$20				
Buffalofish	51,300	1,569	1,000	$30		
Carp	263,000	5,260	10,000	200	14,000	$280
Catfish and bullheads	10,300	1,030	500	50	12,800	1,280
Paddlefish or spoonbill cat	14,400	1,340				
Pike or pickerel	1,500	75				
Sheepshead	78,900	3,945	3,000	150	10,000	525
Sucker "mullet"	3,000	60				
Turtles:						
Snapper	4,200	84			1,000	21
Soft shell	1,050	21				
Total	428,650	13,404	14,500	430	37,800	2,106

Fisheries of Lake Keokuk, 1934—Continued

CATCH: BY GEAR—Continued

Species	Fyke nets		Trammel nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin					1,000	$20
Buffalofish	30,300	$949	2,000	$60	84,600	2,608
Carp	60,500	1,210	5,000	100	352,500	7,050
Catfish and bullheads	82,900	8,290	2,000	200	108,500	10,850
Paddlefish or spoonbill cat					14,400	1,340
Pike or pickerel	500	25			2,000	100
Sheepshead	36,600	1,830	5,000	250	133,500	6,700
Sucker "mullet"	2,400	48	500	10	5,900	118
Turtles:						
Snapper	300	6			5,500	111
Soft shell	100	2			1,150	23
Total	213,600	12,360	14,500	620	709,050	28,920

OPERATING UNITS: BY STATES

Item	Illinois	Iowa	Total for lake
Fishermen:	*Number*	*Number*	*Number*
Regular	4	10	14
Casual	49	48	97
Total	53	58	111
Boats:			
Motor	32	28	60
Other	30	24	54
Apparatus:			
Haul seines	13	16	29
Length, yards	3,000	5,000	8,000
Gill nets, anchor		6	6
Square yards		1,000	1,000
Trammel nets		6	6
Square yards		300	300
Lines, trot	48	45	93
Hooks	5,600	6,000	11,600
Fyke nets	770	570	1,340

CATCH: BY STATES

Species	Illinois		Iowa		Total for lake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			1,000	$20	1,000	$20
Buffalofish	19,100	$643	65,500	1,965	84,600	2,608
Carp	112,000	2,240	240,500	4,810	352,500	7,050
Catfish and bullheads	70,500	7,050	38,000	3,800	108,500	10,850
Paddlefish or spoonbill cat	10,000	900	4,400	440	14,400	1,340
Pike or pickerel			2,000	100	2,000	100
Sheepshead	35,500	1,800	98,000	4,900	133,500	6,700
Sucker "mullet"	400	8	5,500	110	5,900	118
Turtles:						
Snapper	1,700	34	3,800	77	5,500	111
Soft shell	400	8	750	15	1,150	23
Total	249,600	12,683	459,450	16,237	709,050	28,920

FISHERIES OF THE MISSISSIPPI RIVER BETWEEN LAKE PEPIN AND LAKE KEOKUK

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1934

OPERATING UNITS: By gear

Item	Haul seines	Anchor gill nets	Trammel nets	Trot lines	Pound nets	Fyke nets	Dip nets	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	101		10			145		164
Casual	301	9	70	254	4	354	11	548
Total	402	9	80	254	4	499	11	712
Boats:								
Motor	154	6	78	172	2	366		434
Other	154	3	7	83	2	130		292
Apparatus:								
Number	163	7	80	411	10	13,215	11	
Length, yards	42,450							
Square yards		2,600	5,900					
Hooks				66,175				

CATCH: By gear

Species	Haul seines		Anchor gill nets		Trammel nets		Trot lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	83,950	$1,689						
Buffalofish	283,300	8,499	6,500	$195	45,600	$1,368		
Carp	1,329,000	26,580	15,500	310	57,000	1,100	56,900	$1,138
Catfish and bullheads	49,000	4,900	950	95	10,200	1,020	89,600	8,960
Eels	300	25					200	10
Mooneye	31,100	622						
Paddlefish or spoonbill cat	8,000	800			600	60		
Pike or pickerel	8,500	485						
Sheepshead	313,300	15,650	4,300	215	23,600	1,177	33,700	1,681
Sturgeon, shovelnose	9,450	945	750	75	34,700	3,470		
Sucker "mullet"	93,150	1,863	2,100	42	5,900	128		
Turtles:								
Snapper	25,900	524					500	10
Soft shell	12,400	248						
Total	2,247,350	62,830	30,100	932	177,600	8,323	180,900	11,799

Species	Pound nets		Fyke nets		Dip nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			600	$12			84,550	$1,701
Buffalofish	3,000	$90	377,100	11,348	5,500	$165	721,000	21,665
Carp	44,000	880	647,000	12,850	5,000	100	2,154,400	42,958
Catfish and bullheads	1,000	100	446,150	44,615	100	10	597,000	59,700
Eels			950	85			1,450	120
Mooneye			5,000	100			36,100	722
Paddlefish or spoonbill cat							8,600	860
Pike or pickerel							8,500	485
Sheepshead	3,000	150	231,300	11,548	3,500	175	612,700	30,596
Sturgeon, shovelnose			300	30			45,200	4,520
Sucker "mullet"	2,000	40	47,100	942	100	2	150,350	3,017
Turtles:								
Snapper			200	4			26,600	538
Soft shell							12,400	248
Total	53,000	1,260	1,755,700	81,534	14,200	452	4,458,850	167,130

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1934—Continued

OPERATING UNITS: By States

Item	Illinois	Iowa	Minnesota	Wisconsin	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	30	92	2	40	164
Casual	157	218	59	114	548
Total	187	310	61	154	712
Boats:					
Motor	116	203	25	90	434
Other	86	120	41	45	292
Apparatus:					
Haul seines	42	66	15	40	163
Length, yards	9,750	17,900	3,100	11,700	42,450
Gill nets, anchor			3	4	7
Square yards			500	2,100	2,600
Trammel nets	4	74		2	80
Square yards	400	5,300		200	5,900
Lines, trot	150	176	41	44	411
Hooks	25,700	31,400	4,900	4,175	66,175
Pound nets		10			10
Fyke nets	3,940	6,840	120	2,315	13,215
Dip nets		11			11

CATCH: By States

Species	Illinois		Iowa		Minnesota		Wisconsin		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	3,300	$66	36,350	$727	4,900	$108	40,000	$800	84,550	$1,701
Buffalofish	183,300	5,499	342,700	10,281	33,000	990	162,000	4,895	721,000	21,665
Carp	396,800	7,936	963,300	19,226	132,500	2,560	661,800	13,236	2,154,400	42,958
Catfish and bullheads	162,600	16,260	311,900	31,190	27,750	2,775	94,750	9,475	597,000	59,700
Eels	600	50	450	40	200	10	200	20	1,450	120
Mooneye			5,200	104	2,600	52	28,300	566	36,100	722
Paddlefish or spoonbill cat	2,100	210	5,500	550			1,000	100	8,600	860
Pike or pickerel	8,500	485							8,500	485
Sheepshead	199,700	9,985	254,400	12,694	29,000	1,446	129,600	6,471	612,700	30,596
Sturgeon, shovelnose	7,000	700	35,950	3,595			2,250	225	45,200	4,520
Sucker "mullet"	22,000	440	60,600	1,222	13,900	278	53,850	1,077	150,350	3,017
Turtles:										
Snapper	4,400	88	8,600	178	2,400	48	11,200	224	26,600	538
Soft shell	2,750	55	4,350	87	1,000	20	4,300	86	12,400	248
Total	993,050	41,774	2,029,300	79,894	247,250	8,287	1,189,250	37,175	4,458,850	167,130

FISHERIES OF ALASKA [14]

The commercial catch of fishery products in Alaska during 1934, exclusive of whales, amounted to 809,914,821 pounds, valued at $11,706,935, which is an increase of 29 percent both in volume and value as compared with the catch in 1933. Of the total catch in 1934, 624,651,388 pounds, valued at $9,881,113, consisted of salmon; 182,531,160 pounds, valued at $1,660,234, other fish; and 2,732,273 pounds, valued at $165,588, shellfish. In addition, 465 whales were taken. These fisheries gave employment to 9,433 fishermen, 1,758 persons on transporting craft, and 14,999 persons in fisheries wholesale and manufacturing industries—a total of 26,190 persons, which is an increase of 21 percent as compared with the number employed in 1933.

[14] Statistics for the fisheries of Alaska are collected and compiled by the Alaska Division of this Bureau. A summary of these statistics appear in this section. For detailed figures the reader is referred to Alaska Fishery and Fur-Seal Industries in 1934, by Ward T. Bower, Appendix I to the Report of the Commissioner of Fisheries for the fiscal year 1935.

SUMMARY: BY DISTRICTS

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Number	*Value*	*Number*	*Value*	*Number*	*Value*	*Number*	*Value*
PERSONS ENGAGED								
In fishing	4,190		2,206		3,037		9,433	
In transporting	704		669		385		1,758	
In wholesale and manufacturing industries	6,632		4,274		4,093		14,999	
Total	11,526		7,149		7,515		26,190	
CRAFT EMPLOYED								
Vessels fishing	566		60		10		636	
Boats fishing	1,745		1,210		1,320		4,275	
Vessels transporting	167		133		78		378	
Scows, houseboats, pile drivers, etc	273		251		184		708	
Total	2,751		1,654		1,592		5,997	
CATCH								
Fish:	*Pounds*		*Pounds*		*Pounds*		*Pounds*	
Salmon	267,661,090	$3,816,263	184,875,472	$2,927,888	172,114,826	$3,136,962	624,651,388	$9,881,113
Other	128,783,475	1,390,332	48,925,923	245,773	4,821,762	24,129	182,531,160	1,660,234
Shellfish	1,249,670	70,672	1,482,603	94,916			2,732,273	165,588
Total	397,694,235	5,277,267	235,283,998	3,268,577	176,936,588	3,161,091	809,914,821	11,706,935
	Number		*Number*		*Number*		*Number*	
Whales			237		228		465	
WHOLESALE AND MANUFACTURING								
Establishments	95		91		45		231	
PRODUCTS AS PREPARED FOR MARKET	*Pounds*		*Pounds*		*Pounds*		*Pounds*	
Salmon	168,971,402	14,965,741	112,471,299	11,481,916	91,142,786	12,303,818	372,585,487	38,749,475
Herring	46,864,093	925,737	20,719,675	550,037	2,822,450	127,250	70,406,218	1,603,024
Halibut	13,221,338	804,785					13,221,338	804,785
Cod			309,360	12,767	183,545	7,139	492,905	19,906
Trout	66,113	4,987	1,500	30			67,613	5,017
Sablefish	215,344	9,499					215,344	9,499
Flounder	270,000	4,000					270,000	4,000
Rockfish	4,294	142					4,294	142
Clam	852	144	390,342	188,522			391,194	188,666
Shrimp	379,248	119,423	2,208	688			381,456	120,111

Crab	288,316	93,516	354,832	114,147			643,148	207,663
Whale			4,246,375	109,246	5,107,500	141,759	9,353,875	251,005
Total	230,281,000	16,927,974	138,495,591	12,457,353	99,256,281	12,577,966	468,032,872	41,963,293

OPERATING UNITS: By districts

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Fishermen	4,190	2,206	3,037	9,433
Vessels fishing:				
Steam		3	4	7
Net tonnage		201	340	541
Motor	566	57	6	629
Net tonnage	7,236	1,386	192	8,814
Boats fishing:				
Motor	721	256	45	1,022
Other	1,024	954	1,275	3,253
Apparatus:				
Traps	290	169		459
Purse seines	388	159	6	553
Yards	129,714	39,440	3,360	172,514
Haul seines	4	136		140
Yards	800	26,556		27,356
Gill nets	304	985	2,420	3,709
Yards	42,030	105,730	324,792	472,552

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Apparatus—Continued				
Beam trawls	12			13
Wheels			262	262
Lines:		34		
Hand lines (cod fishery)		4	35	69
Trawl lines (cod fishery)			1	5
Troll lines (salmon fishery)	3,207			3,207
Skates of lines (halibut fishery)	2,498	1,191		2,498
Crab pots	1,660	11		2,851
Herring pounds	9	2		20
Herring pound seines	9			11
		1		

CATCH: By districts

[Estimated round weight and value to the fishermen]

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:								
Blueback, red or sockeye	8,693,181	$200,127	57,913,163	$1,252,703	158,850,377	$3,057,017	225,456,721	$4,509,847
Chinook or king	6,780,640	191,500	2,151,200	49,271	2,261,300	29,421	11,193,140	270,192
Chum or keta	34,249,590	368,755	28,150,713	290,570	10,736,181	46,852	73,136,484	706,177
Humpback or pink	201,311,560	2,765,636	90,675,972	1,234,177	165,720	2,073	292,153,252	4,001,886
Silver or coho	16,626,119	290,245	5,984,424	101,167	101,248	1,599	22,711,791	393,011
Herring	113,383,883	566,919	48,040,770	240,204	4,212,612	21,063	165,637,265	828,186
Halibut	14,690,375	804,785					14,690,375	804,785
Cod			877,653	5,539	609,150	3,066	1,486,803	8,605

Fisheries of Alaska, 1934—Continued

CATCH: BY DISTRICTS—Continued

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Trout:	33, 272	$2, 526	7, 500	$30			40, 772	$2, 556
Dolly Varden	52, 657	2, 461					52, 657	2, 461
Steelhead	316, 682	9, 499					316, 682	9, 499
Sablefish	300, 000	4, 000					300, 000	4, 000
Flounders	6, 606	142					6, 606	142
Rockfishes								
Total	396, 444, 565	5, 206, 595	233, 801, 395	3, 173, 661	176, 936, 588	$3, 161, 091	807, 182, 548	11, 541, 347
SHELLFISH								
Crabs	561, 517	46, 758	697, 904	57, 074			1, 259, 421	103, 832
Shrimp	686, 449	23, 885	4, 015	138			690, 464	24, 023
Clams:								
Butter	1, 704	29					1, 704	29
Razor			780, 684	37, 704			780, 684	37, 704
Total	1, 249, 670	70, 672	1, 482, 603	94, 916			2, 732, 273	165, 588
Grand total	397, 694, 235	5, 277, 267	235, 283, 998	3, 268, 577	176, 936, 588	3, 161, 091	809, 914, 821	11, 706, 935

NOTE.—In addition to the above, 465 whales were taken in Alaska waters. The round weight and value to the fishermen cannot be determined, but the products amounted to 9,353,875 pounds, valued at $251,005.

Industries related to the fisheries of Alaska, 1934

TRANSPORTING

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Persons engaged	704	669	385	1, 758
Vessels transporting:				
Steam			11	11
Net tonnage			19, 967	19, 967

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
Vessels transporting—Continued.	*Number*	*Number*	*Number*	*Number*
Motor	167	133	67	367
Net tonnage	4, 974	4, 644	4, 442	14, 060
Scows, houseboats, pile drivers, etc	273	251	184	708

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WHOLESALE AND MANUFACTURING

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Persons engaged	6,632	4,274	4,093	14,999
Establishments:				
Handling fresh and frozen fish	44	4		48
Curing fish	36	39	26	101
Canning fish	51	51	23	125
Manufacturing byproducts	9	5	1	15
Total (exclusive of duplication)	95	91	45	231

PRODUCTS AS PREPARED FOR MARKET

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
FRESH								
Salmon (for food)	1,385,789	$69,837					1,385,789	$69,837
Salmon (for bait and fox feed)	24,600	150	2,000	$10			26,600	160
Herring (for bait)	2,117,160	21,201	1,241,625	10,663			3,358,785	31,864
Halibut	7,253,775	444,525					7,253,775	444,525
Trout	23,372	1,441					23,372	1,441
Sablefish	9,075	349					9,075	349
Flounders	270,000	4,000					270,000	4,000
Rockfishes	1,100	30					1,100	30
Crabs:								
Meat	68,082	21,254	3,880	1,164			71,962	22,418
Whole in shell	15,115	696	11,760	497			26,875	1,193
Shrimp:								
Meat	375,015	118,619	2,208	688			377,223	119,307
Whole in shell	3,780	525					3,780	525
Total	11,546,863	682,627	1,261,473	13,022			12,808,336	695,649
FROZEN								
Salmon (for food)	5,316,574	334,812					5,316,574	334,812
Salmon (for bait)	99,700	450					99,700	450
Herring (for bait)	3,009,765	20,229					3,009,765	20,229
Halibut	5,967,563	360,260					5,967,563	360,260
Trout	31,341	2,443					31,341	2,443
Sablefish	206,069	9,138					206,069	9,138
Rockfishes	3,194	112					3,194	112
Total	14,634,206	727,444					14,634,206	727,444

Fisheries of Alaska, 1934—Continued

PRODUCTS AS PREPARED FOR MARKET—Continued

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
CURED								
Salmon:								
Mild cured	3,162,400	$559,329	12,800	$1,298	357,600	$55,484	3,532,800	$616,111
Pickled			254,400	17,432	133,050	11,555	387,450	28,987
Dried, kippered, and dry salted			35,450	1,794	1,404,200	56,300	1,439,650	58,094
Herring:								
Pickled (for bait)			23,400	166			23,400	166
Pickled (for food):								
Scotch cure	2,137,075	119,791	3,251,875	225,323	2,020,250	100,362	7,409,200	445,476
Norwegian cure	21,790	965			208,750	7,333	230,540	8,298
Roused					513,050	16,854	513,050	16,854
Spiced	2,600	390	40,400	770			43,000	1,160
Dry salted					80,400	2,701	80,400	2,701
Cod:								
Dry salted			170,800	6,119	181,545	7,039	352,345	13,158
Pickled			115,160	4,245	2,000	100	117,160	4,345
Stock fish			23,400	2,403			23,400	2,403
Trout, dried			1,500	30			1,500	30
Sablefish, pickled	200	12					200	12
Total	5,324,065	680,487	3,929,185	259,580	4,900,845	257,728	14,154,095	1,197,795
CANNED								
Salmon:								
Blueback, red or sockeye	5,011,104	772,186	34,054,560	4,896,176	87,079,104	11,980,292	126,144,768	17,648,654
Chinook or king	748,512	114,433	1,366,656	191,207	422,256	56,259	2,537,424	361,899
Chum or keta	18,922,176	1,435,921	15,035,184	1,138,541	1,593,408	127,383	35,550,768	2,701,845
Humpback or pink	125,873,376	10,823,571	57,593,856	4,834,099	94,032	8,132	183,561,264	15,665,802
Silver or coho	7,609,296	834,932	3,665,808	392,545	58,512	6,273	11,333,616	1,233,750
Miscellaneous fish	11,400	1,103			624	140	12,024	1,243
Clams	852	144	390,342	188,522			391,194	188,666
Crabs	205,119	71,566	339,192	112,486			544,311	184,052
Shrimp	453	279					453	279
Total	158,382,288	14,054,135	112,445,598	11,753,576	89,247,936	12,178,479	360,075,822	37,986,190
BYPRODUCTS								
Fertilizer:								
Salmon	702,000	10,530	313,560	4,703			1,015,560	15,233
Whale			1,330,000	18,389	1,368,000	19,116	2,698,000	37,505
Meal, herring	19,956,468	316,604	7,954,000	125,613			27,910,468	442,217

Oil:								
Salmon	115, 875	9, 590	137, 025	4, 111			252, 900	13, 701
Herring	19, 619, 235	446, 557	8, 208, 375	187, 502			27, 827, 610	634, 059
Whale			2, 844, 375	88, 745	3, 237, 750	107, 925	6, 082, 125	196, 670
Sperm			72, 000	2, 112	501, 750	14, 718	573, 750	16, 830
Total	40, 393, 578	783, 281	20, 859, 335	431, 175	5, 107, 500	141, 759	66, 360, 413	1, 356, 215
Grand total	230, 281, 000	16, 927, 974	138, 495, 591	12, 457, 353	99, 256, 281	12, 577, 966	468, 032, 872	41, 963, 293

NOTE.—Halibut products include all taken by the Alaska fleet, some of which were landed at other than Alaska ports. The total landings in Alaska in 1934 amounted to 7,151,669 pounds, valued at $398, 337.

Supplementary table showing the pack of canned products in "standard cases"[1]

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
Salmon:	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Blueback, red or sockeye	104, 398	$772, 186	709, 470	$4, 896, 176	1, 814, 148	$11, 980, 292	2, 628, 016	$17, 648, 654
Chinook or king	15, 594	114, 433	28, 472	191, 207	8, 797	56, 259	52, 863	361, 899
Chum or keta	394, 212	1, 435, 921	313, 233	1, 138, 541	33, 196	127, 383	740, 641	2, 701, 845
Humpback or pink	2, 622, 362	10, 823, 571	1, 199, 872	4, 834, 099	1, 959	8, 132	3, 824, 193	15, 665, 802
Silver or coho	158, 527	834, 932	76, 371	392, 545	1, 219	6, 273	236, 117	1, 233, 750
Miscellaneous fish	238	1, 103			13	140	251	1, 243
Clams	57	144	26, 023	188, 522			26, 080	188, 666
Crabs	4, 273	71, 566	7, 067	112, 486			11, 340	184, 052
Shrimp	26	279					26	279
Total	3, 299, 687	14, 054, 135	2, 360, 508	11, 753, 576	1, 859, 332	12, 178, 479	7, 519, 527	37, 986, 190

[1] The pack of salmon, miscellaneous fish, and crabs has been converted to "standard cases" of 48 1-pound cans, clams to "standard cases" of 48 no. 1 5-ounce cans, and shrimp to "standard cases" of 48 5¾-ounce cans.

Supplementary table showing the output of byproducts in tons and gallons

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
Fertilizer:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Salmon tons	351	$10, 530	157	$4, 703			508	$15, 233
Whale do			665	18, 389	684	$19, 116	1, 349	37, 505
Meal, herring do	9, 978	316, 604	3, 977	125, 613			13, 955	442, 217
Oil:								
Salmon gallons	15, 450	9, 590	18, 270	4, 111			33, 720	13, 701
Herring do	2, 615, 898	446, 557	1, 094, 450	187, 502			3, 710, 348	634, 059
Whale do			379, 250	88, 745	431, 700	107, 925	810, 950	196, 670
Sperm do			9, 600	2, 112	66, 900	14, 718	76, 500	16, 830
Total		783, 281		431, 175		141, 759		1, 356, 215

STATISTICAL SURVEY PROCEDURE

In order that those who use the statistical data contained in this report and previous reports of the Division of Fishery Industries may be informed as to the source of the figures and methods for their collection, it has been deemed advisable to outline in considerable detail the statistical survey procedure followed by the Division. This procedure has been developed over a period of years, and changes in method have been made at times where such changes have appeared to work toward general improvement. While the surveys in the several sections are not made in the same manner owing to varying facilities and records in different States, an attempt has been made to make the data collected by the various methods in the producing areas comparable with respect to the same year as well as over a period of years. Throughout the entire plan it has been the intention to coordinate State and Federal fishery statistical work so that there will be as little duplication of effort as possible. The procedure will be discussed under two main heads—"Sectional surveys" and "Local and special surveys."

SECTIONAL SURVEYS

Statistical surveys of the fisheries and fishery industries of the various sections of the United States occupy by far the greatest part of the time of the statistical personnel of the Division. It is in the course of these surveys that the statistical and marketing agents visit the individual fishing localities of the various States to collect statistics of the volume of the catch of fish and its value, employment in fishing, quantity of fishing gear, number and classification of fishing and transporting craft, employment in wholesale and manufacturing establishments, and the volume and value of manufactured fishery products and byproducts. The various phases of these surveys are discussed in detail in the sections following.

History.—The first comprehensive statistical survey of the fisheries and fishery industries of the United States was made for the year 1880 by George Brown Goode, Assistant Director of the United States National Museum and associates, with the cooperation of the Commissioner of Fisheries and the Superintendent of the Tenth Census. Data for specific fisheries or restricted sections for years prior to 1880 were also collected in this early survey and recorded in Mr. Goode's reports. The survey for 1880, however, did not include the Mississippi River and tributaries. Periodic general surveys of a limited number of States or limited areas of the United States were made for various of the intervening years between 1880 and 1908 and from 1909 to 1928. In 1908 a survey of the entire United States was made. The next general survey of the entire United States was not made until 1931 although complete data for all sections excluding the Mississippi River and tributaries were collected for 1929 and 1930 and complete data on the catch and operating units of the fisheries were collected for 1932. In the latter survey, however, lack of sufficient funds prohibited collection of data on wholesale and manufacturing firms except those data collected as a part of the canned fishery products and byproducts surveys. A complete general canvass was made of the New England, Middle Atlantic, Chesapeake, and Pacific States for 1933, and a similar canvass was

made of the Chesapeake, South Atlantic, Gulf, Pacific, and Lakes States, for 1934.

Following is a summary indicating the years for which statistics were collected on the fisheries and fishery industries in the various sections. Figures for the more recent years are available for free distribution from the Bureau in bulletin form, but figures for the earlier years are available only in the various printed reports of the Bureau. These reports are available for reference in the Bureau's library and at many public libraries.

In the New England States statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of these States were collected for the years 1880, 1887, 1888, 1889, 1898, 1902, 1905, 1908, 1919, 1924, 1928, 1929, 1930, 1931, 1932, and 1933. For most of these years data on operating units and wholesale and manufacturing trade also were collected. In addition to the above, a partial statistical survey was made for the entire section in 1892; a partial survey of the fisheries in Maine, New Hampshire, and Massachusetts for the fiscal year 1897; the lobster fishery for 1900 and 1913; the oyster fishery for 1910; the shad and alewife fisheries for 1896; the menhaden industry for 1912; the fisheries of Massachusetts for 1879; and the fisheries of Connecticut for 1925 and 1926.

Statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of the Middle Atlantic States were collected for the years 1880, 1887, 1888, 1889, 1890, 1891, 1897, 1898, 1901, 1904, 1908, 1921, 1926, 1929, 1930, 1931, 1932, and 1933. Data on operating units and wholesale and manufacturing trade also were collected for most of these years. In addition to these a statistical survey was made of the coastal fisheries of these States in 1915; catch in all States except New York, in 1892; the shad and alewife fisheries in 1896; the shad fisheries of the Delaware River in 1910; the shad fisheries of the Chesapeake Bay and tributaries in 1909; the menhaden industry in 1912; the lobster fisheries in 1900 and 1913; and the oyster fishery in 1911. The years for which statistics are available on the shad fishery of the Hudson River are given in the section entitled "Shad and alewife fisheries."

In the Chesapeake Bay States statistics on the catch of the marine fisheries and those conducted in coastal rivers and bays of these States were collected for the years 1880, 1887, 1888, 1890, 1891, 1897, 1901, 1904, 1908, 1920, 1925, 1929, 1930, 1931, 1932, 1933, and 1934. Data on operating units and wholesale and manufacturing trade also were collected for most of these years. In addition to the above, a statistical survey was made of the crab fishery for 1915; the oyster fishery and menhaden industry for 1912; and the shad and alewife fisheries for 1896, 1909, and 1915. The years for which statistics of the shad and alewife fisheries of the Potomac River are available are given in the section entitled "Shad and alewife fisheries."

In the South Atlantic and Gulf States statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of these States were collected for the years 1880, 1888, 1889, 1890, 1897, 1902, 1908, 1918, 1923, 1927, 1928, 1929, 1930, 1931, 1932, and 1934. Data on operating units and wholesale and manufacturing trade also were collected for most of these years. In addition to the above, a statistical survey was made of the fisheries of these States, excluding Florida and Alabama, for 1887; the shad fishery of the South Atlantic

States for 1910; the shad and alewife fisheries of the South Atlantic States for 1896; the sturgeon fishery of Florida for 1900; the menhaden industry of the South Atlantic States for 1912; the shrimp fishery for 1916; the oyster fishery of the South Atlantic States for 1910; and the oyster fishery of the Gulf States for 1911.

In the Pacific Coast States statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of these States were collected for the years 1880, 1888, 1892, 1895, 1899, 1904, 1908, 1915, and for all the years from 1922 to 1934, inclusive. These surveys have usually included data on operating units and wholesale and manufacturing trade. In addition to the above, statistics were obtained on the fisheries of California from 1918 to 1921, inclusive, and for the oyster fishery in 1912.

Statistics on the catch of the fisheries of the Great Lakes were collected for the years 1880, 1885, 1890, 1893, 1899, 1903, 1908, and for all the years from 1913 to 1934, inclusive. Statistics of the operating units and of the wholesale and manufacturing trade were collected for most of the years when canvasses were made from 1880 to 1908 and in 1917 and 1922 as well as in most of the years from 1926 to 1934, inclusive. In addition to the above a survey was made of the fisheries of Lake Ontario and of certain fisheries in other lakes for the year 1897.

Statistics of the catch of the fisheries of the Mississippi River and its tributaries were collected for the years 1894, 1899, 1903, 1908, 1922, and 1931. In addition, figures have been obtained of the fisheries of Lakes Pepin and Keokuk for the years 1914 and 1917 and the years from 1927 to 1934, inclusive, and of the fisheries of the Mississippi River between Lakes Pepin and Keokuk for the years 1929 to 1934, inclusive.

Statistics also were collected on the fisheries of certain interior waters, other than the fisheries of the Great Lakes and the Mississippi River and its tributaries, for the years 1894, 1895, 1900, and 1902.

Statistical agents.—The statistics contained in this volume have been collected by a corps of trained statistical and marketing agents which comprises a part of the permanent staff of the Division of Fishery Industries of the Bureau. Most of these men have been with the Bureau for a period of 5 years or more. In the main they are college graduates and were recruited through civil-service examination. While in college, most of the men pursued biological or technical courses largely in fishery work which has especially suited them for coping with the many biological and technical aspects encountered in canvassing the fisheries. This training has been especially helpful in identification of the species which, because of the many local names applied to a particular species, causes considerable confusion.

Period covered.—In conducting the fishery statistical surveys, agents are dispatched to the districts to be surveyed as early in the calendar year as they can be spared from the tabulation and preparation for publication of their previous season's work. They collect statistics of fishery operations for the year preceding that in which they are working; and, since their field work occupies the greater part of the year, it is usually at least a year from the end of the calendar year for which they are collecting data until the figures are published. Most of the figures are collected for the calendar year. Where there are variations from this general practice, explanatory notes appear in the tables. Prior to 1930, statistics on the catch of oysters in the Atlantic and Gulf

States were collected for the oyster season; that is, from September to April, inclusive. Beginning with 1930 and down to the present, they have been collected on the basis of the calendar year.

Scope.—The scope of the coastal statistical surveys includes canvasses of the commercial fisheries of the oceans and bays and of the coastal rivers as far inland as commercial fishing is important. This usually coincides with the range of commercial fishing for anadromous species. Statistics of the fisheries of the Mississippi River cover canvasses of the fisheries of the Mississippi River proper as well as all of its tributaries wherein commercial fishing for either fish, crustaceans, or mollusks is prosecuted. Statistics of the fisheries of the Great Lakes cover canvasses of the fisheries prosecuted in the Lakes proper, adjacent bays, and the international lakes of northern Minnesota, as well as rivers which sustain a commercial fishery having outlets into these waters. Surveys for statistics of the wholesale and manufacturing fishery industries cover such plants located in the coastal, river, and lake areas adjacent to the waters mentioned above.

Methods of collection.—Several methods for the collection of fishery statistics are employed, each of which has been carefully studied to obtain the best results with the available personnel and funds. In most instances the agents obtain lists of the names of fishing vessels, names or numbers of motor boats, and names of owners of these craft from local customs officials. Also it often is possible to obtain the names of licensed commercial fishermen and occasionally some statistics on the catch from several of the State fishery agencies; from other State, county, or city agencies; or from private organizations.

With such preliminary records as are available for their guidance the agents then visit each fishing community in their field unless their preliminary records are so complete that personal visits in some areas may be eliminated. While it is impossible for the few agents available for this work to interview each fisherman in a given locality, the more important ones are visited, and a sufficient number of those of lesser importance are interviewed to obtain reliable information on their production. In practice virtually all wholesale firms are visited, as well as captains of fishing vessels (those of 5 net tons or over), and also most of the more important inshore fishermen.

In the Great Lakes and Pacific Coast States such exceptional cooperation has been obtained in recent years from the State fishery agencies in the collection of statistics that only fragmentary surveys need be made by the Bureau's agents to obtain the necessary data. Also the State fishery agencies in Maryland and Virginia recently have developed very complete statistical systems which greatly facilitate the Bureau's canvasses in these States.

As regards the fisheries of the Great Lakes and international lakes of northern Minnesota the Bureau obtains most of the catch statistics and usually the value of the catch direct from the records of the State fishery agency. To obtain data on the number of fishermen, boats, vessels, and gear the Bureau conducts such personal surveys among the fishermen as may be necessary to supplement the State records.

Bureau agents are stationed at Seattle, Wash., and Terminal Island, Calif., who survey the fisheries of the Pacific Coast States. As a rule they obtain figures on the volume of the catch from the records of the several State fishery agencies. In most cases the value of the

catch is derived from dealers' records and sometimes from estimates of prices. In Washington and Oregon the offshore fisheries are surveyed separately by the Bureau's agent to obtain the number of operating units, catch, and value of the catch. Statistics of the wholesale fishery industry for this section are obtained largely by personal interviews of the agents.

In the administration of the Alaska fisheries the Bureau obtains sworn statements concerning their activities from those prosecuting the fisheries in this area. These statements are compiled by the Alaska Division of this Bureau.

Statistics of the volume of the catch of fish of the Pacific Coast States are usually shown in weights as landed, which may be in the round or dressed condition. Statistics on the volume of the catch of fish taken in the remainder of the United States are shown in round weight.

The figures in the tables for shellfish represent the weight of the meats in the case of univalve and bivalve mollusks and gastropods, and the round weight of crustaceans and such mollusks as squid and octupus.

Shore and vessel fisheries.—In general, statistics of the shore fisheries as collected by the agents include data, on the number of casual and regular fishermen; number and tonnage of motor and other fishing boats and accessory boats; kind and quantity of gear used, and the volume, value, and method of capture of each species caught by boats (for our purpose craft of less than 5 net tons, capacity are called "boats") for each locality or group of localities. This method is not followed in some sections where the availability of data collected by the State fishery agencies obviates the necessity of detailed locality surveys.

Statistics of the vessel fisheries include data on the number of the crew, rig of vessel, net tonnage, kind and quantity of gear used, accessory boats carried, and volume, value, and method of capture of each species caught by each vessel (for our purpose craft of 5 net tons' capacity or more are called "vessels"). As in the shore fisheries, the availability of figures collected by State fishery agencies may eliminate the necessity of our agents collecting these data for each vessel.

All persons engaged in commercial fishing operations are included as fishermen. For our purpose these have been divided into "regular" and "casual" fishermen. Regular fishermen are those who receive more than one-half of their annual income from fishing; and casual fishermen are those whose principal business is something other than fishing, and who receive less than one-half of their annual compensation from fishing.

The catch of fish is credited to the principal port of arrival and departure of the craft rather than its point of ownership, registration, documentation, or its port of landing. This accounts for catches of fish being shown in areas where they are not common since fishing vessels frequently fish in areas far from their principal fishing port.

Wholesale and manufacturing trade.—All persons or firms engaged in the wholesale buying and selling of fishery products or who produce manufactured fishery products are surveyed under this title. Where the business of fishing and wholesaling or manufacturing is combined, that part of the business devoted to either of the latter two phases

is included in the wholesale and manufacturing survey and the part devoted to fishing is included in the shore or vessel fisheries. If a wholesale business is conducted with no manufacturing and the business is so small that the full time of one man over the whole year or season is not required, it is then disregarded as a wholesale business. If commodities other than fishery products are handled the persons engaged, and salaries and wages paid, are prorated; and only that part concerned with fishery products is included. If such a firm requires less than the full time of one man over the whole year or season and if it does not manufacture, it is not included in the canvass. Retail firms that manufacture or whose wholesale business exceeds the retail part are included. Persons or firms engaged in the motor trucking of fishery products are included as wholesalers if they are engaged in wholesale buying and selling.

Buyers for a central firm are not canvassed as wholesale dealers unless they ship direct to the firm's customers from the buying point.

Fishermen or fishing concerns, except manufacturers, who do not buy fishery products are not included under this heading except that oyster-shucking firms are included provided shuckers are employed and irrespective of whether all or part of the oysters used are taken from the firms' privately owned beds.

Manufacturing concerns include those which prepare packaged fishery products; salted, spiced, smoked, dried, or otherwise cured fishery products; canned fishery products; or fishery byproducts.

Fishermen who manufacture are surveyed to obtain the number of persons so employed and the volume and value of the products prepared.

In collecting statistics of manufacturing firms the agents obtain data on the production for each plant in producing areas of products as marketed by the plant. Such products are usually "final" and in form for consumption; however, the products may be "intermediate" and require further processing before reaching the consumer markets. An outstanding example of an intermediate product is green-salted ground fish which almost invariably is further processed before final marketing. In reviewing the statistics of manufactured products it should be observed that intermediate products are not shown where they are prepared to the final stage in the original plant. An exception to this rule, however, is in the case of the production of mild-cured salmon which on account of its importance is shown in its entirety whether further processed in the producing plant or not. In this connection it should also be stated that several of the byproducts for which statistics are shown may be intermediate and the plants producing the final products are not surveyed by this Bureau. Outstanding among such products are marine-animal oils, scrap, and meal.

Statistics of persons engaged in wholesale and manufacturing establishments are reported in three groups: Proprietors, salaried employees, and wage earners.

Proprietors represent those persons who devote their time to the conduct of the enterprise and receive their compensation in the form of profits. Managers of branch houses are not classified as proprietors.

Salaried employees usually include those persons paid by the week or month while wage earners usually consist of those paid on a per

diem or piece-work basis. This, however, is not true in all cases, since the distinction between these two classes depends primarily on the character of the work done rather than the unit of time employed for calculating rates of pay. In general, office employees are classified as salaried employees. Other employees, including plant workmen, are classed as wage earners. Plant foremen or superintendents are classified as salaried employees unless they are principally engaged in manual labor, in which case they are classified as wage earners. Active officers of corporations are classified as salaried employees. Statistics of wage earners are shown in two forms: The average number employed during the operating season; and the average number employed during the year (the monthly average for the year).

Transporting trade.—Statistics are obtained on the number of the crew and number of boats and vessels engaged in transporting fishery products from the fishing grounds to port or from port to port. However, if a craft is engaged in catching fish at any time of the year it is included as a fishing craft rather than as a transporter.

Publication of data.—Statistics of employment in the fisheries, craft and gear engaged, catch and value of catch, and certain data on industries related to the fisheries are summarized and published in bulletin form as soon as possible after completion of each survey. Later the figures in more detail are included in the annual reports of the Division.

LOCAL AND SPECIAL SURVEYS

Landings at certain important United States ports.—Statistics of the landings of aquatic products at the principal New England ports (Boston and Gloucester, Mass., and Portland, Maine) are obtained in a similar manner. An agent is permanently stationed at each of these ports. His duties include the obtaining of figures daily on the quantity of fish landed by each fishing vessel, the value of such fish landed, information concerning the date of departure and arrival of the vessel, and he also indicates the grounds from which the fish were taken and gear used in their capture. These data are forwarded to the Bureau, where compilations are made. Products of American fisheries received duty free at Boston and Gloucester, Mass., and Portland, Maine, from the treaty coasts of Newfoundland, Magdalen Islands, and Labrador are included in the landings at these ports; however, they are not included in the catch in sectional fishery surveys of the New England States unless they represent a catch by United States vessels. Statistics of these landings are released monthly and annually in bulletin form and detailed data are published in the annual reports of this Division. Data on the landings at Boston, and Gloucester, Mass., have been collected annually since 1893, and those for Portland, Maine, since June 1915. Some data are available for Boston and Gloucester prior to 1893.

Statistics of the landings of fish at Seattle, Wash., are collected by the Bureau's agent in that city. Landings are classified as those made by American fishing vessels and those received by Seattle wholesale dealers. The landings credited to United States fishing vessels are made by vessels operating distinctly as primary fishing units, usually in the offshore fisheries, while those credited as received by wholesale dealers are usually products of the shore fisheries col-

lected mainly from points in Puget Sound and do not include fish received from Alaska or Canada, or landings made by the halibut fleet. Statistics of these landings at Seattle are released monthly and annually in bulletin form and detailed data are published in the annual reports of this Division. Statistics of the landings by fishing vessels at Seattle have been collected since June 1915 and certain data on products received by Seattle wholesale dealers since December 1915.

Statistics of the fishery products handled at the municipal wharf, Washington, D. C., are reported to the Bureau by agents of the Health Department in Washington. They are not published in bulletin form, but a summary of the year's activities is published in the annual reports of the Division. Data on products handled at the municipal wharf are available since 1921.

Atlantic mackerel fishery.—Statistics on the catch by the Atlantic mackerel fleet are obtained by combining the figures of mackerel landed at Boston and Gloucester, Mass., and Portland, Maine, with those obtained by Bureau agents, who in recent years have been stationed at other Atlantic ports where mackerel are landed. These agents obtain data on the volume of mackerel landed in a manner similar to that used to obtain figures on the landings by fishing vessels at the three New England ports. The figures include only the catches made by purse seine and drift gill net craft and are not complete for craft of under 5 net tons' capacity using this type of gear. Statistics of this fishery appear only in the annual reports of this Division, although the landings at the principal New England ports appear in the monthly and annual bulletins published for those ports. Statistics of this fishery are available from 1905 to 1934, inclusive.

Shad and alewife fisheries.—Owing to the importance of the Hudson and Potomac Rivers in the production of shad, surveys for statistics of the catch, value of the catch, and operating units are made annually. On the Potomac River similar statistics also are obtained for the alewife fishery. Much of the data required for these surveys are available from the State fishery agencies.

Statistics of the shad and alewife fisheries are not published separately in bulletin form, but a summary of the year's activities is published in the annual reports of the Division.

Statistics of the shad fishery of the Hudson River are available for 1896, 1897, 1898, 1901, 1904, 1910, and from 1915 to 1934, inclusive, while data for the shad fishery of the Potomac River are available for 1896, 1901, 1904, 1909, 1915, and from 1919 to 1934, inclusive. Statistics of the alewife fishery of the Potomac River are available for 1896, 1909, 1915, and from 1919 to 1934, inclusive.

Pacific halibut fishery.—Statistics of the Pacific halibut fishery are obtained by the Bureau's agent in Seattle, aided by Bureau representatives in Alaska and the International Fisheries Commission. The fleet classification has been arbitrarily applied by including in the "Washington fleet" all United States and Alaska vessels that land more than half of their catch in that State. All other United States and Alaska vessels of the halibut fleet are included in the "Alaska fleet." Monthly and annual statistical bulletins are available on this fishery, being published along with the statistics of the landings of fishery products at Seattle, Wash., and detailed statistics are published in the annual reports of the Division. Statistics of the landings of halibut at Pacific coast ports have been collected since 1925.

Canned fishery products and byproducts.—Beginning in 1921, the Bureau has made annual surveys for statistics of the canned fishery products and byproducts industries of every section. These are begun the first week in January of each year for statistics of the production in the preceding year. The surveys usually occupy 6 to 9 weeks' time. During this period the Bureau obtains by mail, so far as possible, the production of canned fishery products or byproducts from each plant in the United States engaged in this business. Where it is impossible to obtain reports by mail the report is obtained by personal visit by the Bureau's agents. They obtain statistics of the production and value of the production for each commodity. Statistics of the canned fishery products and byproducts produced in Alaska are received on the same statements obtained by the Bureau that include statistics of their general fishery operations.

An annual statistical bulletin is issued on this trade, and detailed statistics of the output are published in the annual reports of the Division. In addition to the data obtained on the output of these products annually since 1921, data also usually were obtained prior to 1921 for the years the various sections were surveyed.

The value shown for canned products constitutes the gross amount received by the packer at the production point, no deductions being made for commission or expenses.

Packaged-fish trade.—Complete statistics of the annual production and value of fish packaged in the United States are obtained as a part of the survey for the statistics of the canned fishery products and byproducts industries. These statistics are released in bulletin form annually and detailed statistics are published in the annual reports of the Division. Statistics of the production of packaged fish are available for 1926 and the years from 1928 to 1934, inclusive.

Cold-storage holdings of fish.—An arrangement has been made with the Bureau of Agricultural Economics, Department of Agriculture, whereby statistics of the cold-storage holdings of the various species of fish, by sections of the United States, are furnished to this Bureau monthly. Included with statistics of the holdings are statements of the quantity of the various species of fish frozen and also the holdings of certain cured fish. Bulletins showing these statistics are issued monthly as well as annually, and detailed statistics are published in the annual reports of this Division. Statistics of cold-storage holdings of fishery products have been published since 1917 and data on quantities of fish frozen, for the years from 1920 to 1925, inclusive, and from 1928 to 1934, inclusive.

Sponge market, Tarpon Springs.—A large proportion of the total output of sponges in Florida is handled through the sponge exchange at Tarpon Springs. In view of this, the Bureau has obtained from a representative of the exchange annual statistics of the quantity and value of the sponges, by variety classification, handled through it annually. Statistics of the quantity of sponges handled through the exchange are not published in bulletin form, but a summary of the year's activities is published in the annual reports of this Division. Statistics of the transactions on the sponge exchange are available for 1913, 1914, and for the years from 1917 to 1934, inclusive.

Foreign fishery trade.—Statistics of the foreign fishery trade are obtained from compilations made by the Bureau of Foreign and Domestic Commerce, Department of Commerce. Statistics of all

known fishery products imported or exported have been assembled in one table and published annually in the reports of the Division in recent years. For earlier years they are available in the reports of the Bureau of Foreign and Domestic Commerce, the Bureau of Statistics, the Department of Commerce and Labor, and the Treasury Department.

PRACTICES AND TERMS

Certain practices and terms of importance used in the compilation of fishery statistics are explained below.

Days absent.—In computing "days absent" for vessels landing fares at the various ports, the day of departure and the day of arrival are included; thus, a vessel leaving port on the 8th of the month and returning on the 15th of the month will be shown as being absent 8 days.

Operating units.—Operating units as referred to in this document include persons engaged in the fisheries and fishing craft and gear employed.

Vessel.—The term "vessel" refers to a craft having a capacity of 5 net tons or more.

Boat.—The term "boat" refers to a craft having a capacity of less than 5 net tons.

Incidental catch.—The term "incidental catch" refers to the catch of certain species by a type of gear which ordinarily does not capture such species.

Percentages.—Percentages are usually shown as whole numbers. Fractions of percents are dropped if less than five-tenths, and the percentage is raised to the next higher integer if the fraction is greater than five-tenths. If the fraction is exactly five-tenths, the integer is raised or lowered to make it an even number.

Converting.—Many of the figures shown in the statistical tables published herewith have been reduced to thousands of pounds or dollars. In making these conversions the largest number from which a group of items is computed is raised or lowered to the nearest thousands place. If the number ends in an even 500, the thousands integer is raised or lowered to make it an even number. The individual items are changed to conform to the total thus obtained.

Confidential data.—The statistical data collected by the Division are confidential and are not released except by approval of the Washington office. Statistics of production of wholesale and manufacturing firms are published only for commodities or geographical areas where the production of three or more concerns may be grouped. Every effort is made to publish only those figures which will not reveal individual enterprise.

CONVERSION FACTORS

It is the policy of the Bureau to show the detailed catch figures of all products in pounds for the sake of uniformity and for purposes of comparison. Following such a policy presents certain problems. In the case of fish there is little difficulty since in very rare instances are such products reported in units of measure other than pounds. For shellfish, however, the units of measure may be bushels, sacks, barrels, or thousands of shellfish, gallons of meats, etc. These many units make standardization difficult, but when coupled with the wide varia-

tion in the requirements or definition of some of these units in the various States the problem becomes even more complex.

All bivalve mollusks are reported in pounds of meats in the detailed catch tables presented in this report. In addition, there are included supplementary tables for most of the sections, which give data on the production in bushels. These supplementary tables also give the production of certain other shellfish, such as crabs, in number.

Oysters.—Probably the greatest problem in presentation of fishery statistics in uniform units of measure is in the case of oysters. Usually the production of oysters on the Atlantic and Gulf coasts is reported to Bureau agents in bushels; and prior to the data obtained for the year 1930 conversion from bushels to pounds of meats was effected on the basis of a uniform yield of 7 pounds of meats to the bushel. However, recent investigations have shown considerable variation from this figure. There follows a table which gives the results of these studies of the measures used for oysters in the various States and of the average yields per bushel. This table presents the factors that have been used in the oyster statistics given in this report.

Measures and yields of oysters [1]

State	Capacity of State bushel	Variation from United States standard bushel		Market oysters	
				Yield per State bushel	Yield per standard bushel
	Cubic inches	*Cubic inches*	*Percent*	*Pounds of meats*	*Pounds of meats*
Massachusetts	2,150.4	----------	----------	6.57	6.57
Rhode Island	2,150.4	----------	----------	6.96	6.96
Connecticut	2,150.4	----------	----------	6.81	6.81
New York	2,150.4	----------	----------	7.00	7.00
New Jersey	2,257.3	+106.9	+5.0	8.70	8.29
Delaware	2,257.3	+106.9	+5.0	7.88	7.50
Maryland	2,801.5	+650.1	+30.2	6.24	4.79
Virginia	3,003.4	+853.0	+39.7	6.32	4.53
North Carolina	2,801.9	+651.5	+30.3	5.58	4.28
South Carolina	4,071.5	+1,921.1	+89.3	4.74	2.50
Georgia	2,753.4	+603.0	+28.0	5.88	4.59
Florida	3,214.1	+1,063.7	+49.4	3.57	2.39
Alabama	2,826.2	+675.8	+31.4	3.29	2.50
Mississippi	2,826.2	+675.8	+31.4	2.22	1.69
Louisiana	2,148.4	−2.0	−0.1	4.32	4.32
Texas	2,700.0	+549.6	+25.6	4.41	3.51

[1] Data for the Chesapeake, and the South Atlantic and Gulf States are for 1934. Other data are for 1933.

Other mollusks.—The following table shows the conversion factors for various mollusks, other than oysters, used in this report.

Average yields of certain mollusks in pounds of meats per bushel [1]

State	Clams, hard		Clams, soft, public	Clams, surf	Clams, razor	Mussels, sea	Periwinkles and cockles	Scallops, bay	Scallops, sea	Conchs
	Public	Private								
Maine	11	----------	15	----------	----------	12	18	----------	6	----------
Massachusetts	11	11	15	17	32	10	18	6	6	----------
Rhode Island	11	11	16	----------	----------	13	18	6	----------	----------
Connecticut	10	----------	14	----------	----------	----------	----------	5.75	6	----------
New York	8	8	16	12	----------	10	----------	5	6	18
New Jersey	8.96	8.96	20	12.5	----------	13	11.85	6	6	18
Delaware	10	10	----------	----------	----------	----------	----------	----------	----------	----------
Maryland	8	----------	----------	----------	----------	----------	----------	----------	----------	----------
Virginia	8	----------	----------	----------	----------	13	----------	----------	6	----------
North Carolina	8	----------	----------	----------	----------	----------	----------	6	----------	----------
South Carolina	8	----------	----------	----------	----------	----------	----------	----------	----------	----------
Florida	8	----------	----------	----------	----------	----------	----------	5.3	6	5

[1] Data for the Chesapeake, and South Atlantic and Gulf States are for 1934. Other data are for 1933.

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Cusk		*Brosmius brosme.*
Cutlassfish	Ribbonfish	*Trichiurus lepturus.*
Dolly Varden trout	Salmon trout, bull trout	*Salvelinus parkei.*
Dolphin		*Coryphaena hippurus.*
Drum:		
Black		*Pogonias cromis.*
Red	Channel bass, redfish, spotted bass.	*Sciaenops ocellatus.*
Eels:		
Common		*Anguilla rostrata.*
Conger		*Leptocephalus conger.* Gymnothorax species.
Flounders	Dabs, blackbacks, lemon sole, winter flounder, summer flounder.	Pleuronectidae species.
	Halibut, "California"	*Paralichthys californicus.*
	Sole	*Psettichthys melanostictus* (Pacific coast).
Flyingfish		*Cypsilurus californicus.*
Frigate mackerel	"Boo Hoo"	*Auxis thazard.*
Garfish		(See sea gar.)
Gizzard shad	Nanny shad, mud shad	*Dorosoma cepedianum.*
Goldeye		Hiodon species.
Goldfish	Sand perch	*Carassius auratus.*
Goosefish		*Lophius piscatorius.*
Grayfish	Dogfish	*Squalus sucklii* (Pacific coast).
	Spiny dog	*Squalus acanthias.*
	Smooth dog	*Mustelus mustelus.*
Groupers	"Sea bass"	Epinephelus species. Mycteroperca species.
Grunts	Margatefish, sailors choice (Key West).	Haemulon species.
Haddock		*Melanogrammus aeglefinus.*
Hagfish	Slimefish	*Myxine glutinosa.*
Hake	Squirrel hake, Boston hake, ling, black hake, mud hake.	Urophycis species (Atlantic coast).
	Merluccio	*Merluccius productus* (Pacific coast).
Halibut		*Hippoglossus hippoglossus.*
Hardhead		*Orthodon microlepidotus* (Pacific coast).
Harvestfish	Starfish, pappyfish; butterfish (N. C.).	*Peprilus alepidotus.*
Herring:		
Lake	Herring	*Leucichthys artedi* (Great Lakes, except Erie).
Round		*Etrumeus sadina.*
Sea		*Clupea harengus* (Atlantic coast). *Clupea pallasii* (Pacific coast).
Herring smelt	Sea smelt	*Argentina silus.*
Hickory shad	Tailor shad	*Pomolobus mediocris.*
Hogfish	Capitaine, perro perro	*Lachnolaimus maximus* (Florida).
Horse mackerel		*Trachurus symmetricus* (Pacific coast).

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Jewfish		*Promicrops itaiara.*
Kingfish		*Scomberomorus cavalla* (Atlantic coast).
	Little roncador, croaker	*Genyonemus lineatus* (California).
King whitings	Northern whiting, kingfish, seaming.	Menticirrhus species.
Ladyfish	Bonefish	*Albula vulpes.*
Lake trout		*Cristivomer namaycush.*
Launce	Sand eel, lant, sand launce.	*Ammodytes americanus.*
"Lingcod"	Cultus cod, blue cod, buffalo cod, ling.	*Ophiodon elongatus.*
Mackerel		*Scomber scombrus* (Atlantic coast).
		Scomber diego (Pacific coast).
Marlin	Spearfish	*Tetrapturus mitsukurii* (Pacific coast).
Menhaden	Mossbunker, pogy	*Brevoortia tyrannus.*
Minnows		Cyprinidae species.
Mojarro		Eucinostomus species.
Mooneye	Toothed herring	Hiodon species.
Moonfish		*Vomer setipinnis.*
		Selene vomer.
Mullet	Jumping mullet	*Mugil* species.
Mummichog	Mayfish, killifish	*Fundulus* species.
Muttonfish		*Lutianus analis.*
Paddlefish	Spoonbill cat	*Polyodon spathula.*
Parrotfish		Scaridae species.
Perch (California)		(See surf fishes.)
Permit	Great pompano	*Trachinotus goodei.*
Pigfish	Hogfish (N. C.)	*Orthopristis chrysopterus.*
Pike or pickerel	Great Lakes pike	*Esox reticulatus.*
		Esox lucius.
Pilchard	Sardine	*Sardina caerulea.*
Pilotfish		*Naucrates ductor.*
		Seriole zonata.
Pinfish	Bream, salt-water bream	*Lagodon rhomboides.*
Pollock		*Pollachius virens.*
Pompano		*Trachinotus* species (Atlantic coast).
		Palometa simillima (Pacific coast).
Porgies	Porgee	*Calamus* species.
Porkfish	Sisi	*Anisotremus virginicus.*
Quillback	Spearfish or skimfish	*Carpiodes* species.
Roach	Shiner	*Notemigonus crysoleucas.*
Rock bass	Redeye, goggle-eye	*Ambloplites rupestris* (Mississippi River to Atlantic seaboard).
	Groupers	*Paralabrax nebulifer* (Pacific coast).
Rockfishes	Rock cod	*Sebastodes* species (Pacific coast).
Rosefish		*Sebastes marinus.*
Rudderfish	Blue bass, greenfish	*Girella nigricans* (Pacific coast).
	Halfmoon	*Medialuna californiensis* (Pacific coast).

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Sablefish	Black cod	*Anaplopoma fimbria.*
Salmon:		
Atlantic		*Salmo salar* (Atlantic coast).
Pacific:		
Blueback, red, or sockeye.		*Oncorhynchus nerka.*
Chinook or king.	Tyee, Columbia, Sacramento, spring.	*Oncorhynchus tschawytscha.*
Chum or keta.	Dog salmon	*Oncorhynchus keta.*
Humpback or pink.		*Oncorhynchus gorbuscha.*
Silver or coho		*Oncorhynchus kisutch.*
Steelhead	See steelhead trout.	
Sauger	Sand pike	*Stizostedion canadense.*
Sawfish		*Pristis pectinatus.*
Sculpin		Cottidae species.
Scup	Paugy or porgy, fair maid.	*Stenotomus* species.
Sea bass	Black jewfish or black sea bass.	*Stereolepis gigas* (Pacific coast).
	Black sea bass	*Centropristes striatus* (Atlantic coast).
	White sea bass	*Cynoscion nobilis* (Pacific coast).
Sea catfish	Gafftopsail	*Bagre marina.*
Sea gar	Needlefish, billfish, houndfish.	*Tylosurus* species.
Sea robin		*Prionotus* species.
Shad	American shad	*Alosa sapidissima.*
Sharks		*Carcharodon* species: *Mustelus* species; *Carcharhinus* species; *Sphyrna* species.
Sheepshead		*Archosargus probatocephalus* (Atlantic coast).
	Drum, fresh-water	*Aplodinotus grunniens* (fresh water).
	Redfish, flat head	*Pimelometopon pulcher* (Pacific coast).
Silver perch	Sand perch	*Bairdiella chrysura.*
Silversides	Spearing	*Menidia* species.
Skates		*Raja* species.
Skipper	Billfish	*Scomberesox saurus.*
Smelts		*Osmerus mordax* (Atlantic coast).
		Argentinidae species (Pacific coast).
	Eulachon	*Thaleichthys pacificus.*
Snapper:		
Mangrove	Gray snapper	*Lutianus griseus.*
Red		*Lutianus blackfordii.*
Snook	Robalo, sergeantfish	*Centropomus undecimalis.*
Spadefish	Porgy (N. C.)	*Chætodipterus faber.*
Spanish mackerel		*Scomberomorus maculatus.*
Splittail		*Pogonichthys macrolepidotus.*
Spot	Lafayette, goody	*Leiostomus xanthurus.*
Squawfish	Sacramento pike	*Ptychocheilus grandis.*

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Squeteague:		
Gray	Gray trout, weakfish, trout.	*Cynoscion regalis.*
Spotted	Spotted weakfish, spotted trout.	*Cynoscion nebulosus.*
White	Sand trout	*Cynoscion aremarius.*
Squirrelfish		*Diplectrum formosum.*
Squirrel hake	See hake.	
Steelhead trout	Salmon trout	*Salmo gairdneri.*
Striped bass	Rockfish, rock	*Roccus lineatus.*
Sturgeon		*Acipenser* species.
Sturgeon, shovelnose		*Scaphirhynchus platorynchus.*
Sucker	Fresh-water mullet	Catostomídae species.
Sunfish		*Lepomis* species. Centrarchidae species.
Surf fishes		Embiotocidae species.
Swellfish	Puffer, swell toad, balloonfish, globefish.	*Spheroides maculatus.*
Swordfish		*Xiphias gladius.*
Tai		*Calumus brachysomus.*
Tautog	Blackfish, oysterfish	*Tautoga onitis.*
Tenpounder	Elops	*Elops saurus.*
Thimble-eyed mackerel.	Bullseye	*Scomber colias.*
Tilefish		*Lopholatilus chamæleonticeps.*
Tomcod		*Microgadus tomcod* (Atlantic coast). *Microgadus proximus* (Pacific coast).
Tripletail		*Lobotes surinamensis.*
Tullibee		(See chubs.)
Tuna and tunalike fishes:		
Albacore	Longfin tuna	*Germo alalunga.*
Bluefin	Tuna, leaping tuna (Pacific coast). "Horse mackerel" (Atlantic coast).	*Thunnus saliens.* *Thunnus secundodorsalis.*
Bonito		*Sarda sarda* (Atlantic coast). *Sarda chiliensis* (Pacific coast).
Skipjack	Striped tuna	*Euthynnus pelayms.*
Yellowfin		*Neothunnus macropterus.*
Turbot	Greenland halibut American turbot	*Reinhardtius hippoglossoides* (off New England). *Balistes carolinensis* (off Florida).
White bass	White lake bass	*Roccus chrysops.*
Whitebait	Small fry of any fish.	
Whitefish:		
Common		*Coregonus clupeiformis* (Great Lakes). *Caulolatilus princeps* (Pacific coast).
Menominee		*Prosopium quadrilaterale*
White perch		*Morone americana* (Atlantic coast).
Whiting	Silver hake	*Merluccius bilinearis.*
Wolffish		*Anarhichas lupus.*
Yellow perch		*Perca flavescens.*

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Yellow pike	Wall-eyed pike, pike perch, dore.	*Stizostedion vitreum.*
Yellowtail		*Ocyurus chrysurus* (Atlantic coast). *Seriola dorsalis* (Pacific coast).
Crabs:		
Hard	Hard-shell crab, blue crab	*Callinectes sapidus.*
	Dungeness crab	*Cancer magister* (Pacific coast).
	Rock crab, hard crab	*Cancer irroratus* (Atlantic coast).
Soft	Soft-shelled crab, blue crab.	*Callinectes sapidus.*
King	Horseshoe crab	*Limulus* (Atlantic coast).
Stone		*Menippi mercenaria.*
Crawfish:		
Fresh-water	Crayfish	Cambarus species (Atlantic coast). Astacus species (Pacific coast).
Sea	Rock lobster, crayfish	*Panulirus argus* (Atlantic coast). *Panulirus interruptus* (Pacific coast).
Lobsters:		
Common		*Homarus americanus* (Atlantic coast).
Spiny	(See sea crawfish.)	
Shrimp		*Peneus setiferus.* *Peneus brasiliensis* (Atlantic and Gulf coasts). Pandalus species (Pacific coast). Pandalopsis species (Pacific coast). Crangon species (Pacific coast).
Abalone		Halotis species.
Clams:		
Cockle		*Cardium corbis* (Pacific coast).
Hard	Butter	*Saxidomus nuttall.*
	Round clam, cherrystone, quahog, little neck.	*Tivela stultorum* (Pacific coast). *Venus mercenaria* (Atlantic coast). *Venus mortoni* (Florida coast).
Pismo		*Tivela stultorum* (Pacific coast).
Razor		Enis species (Atlantic coast). *Siliqua patula* (Pacific coast).
Soft	Softshell clam, sand clam, nannynose, maninose.	Mya arenaria.
Surf	Skimmer	*Mactra solidissimo.*
Cockles	Moonshell	*Natica heros* (Atlantic coast).
Conchs		Strombus species. Busycon species.

Common and scientific names of the commerical fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Coquina	Pompano shells	*Donax variabilis.*
Mussels:		
Sea		*Mytilus californianus* (Pacific coast). *Mytilus edulis.*
Fresh water		Quadrula species. Lampsilis species. Unio species. Symphynota species.
Octopus		*Octopus punctatus* (Pacific coast).
Oysters:		
Eastern		*Ostrea virginica*
Western	Olympia	*Ostrea lurida* (Pacific coast).
Japanese (introduced).	Pacific	*Ostrea gigas.*
Periwinkles		Littorina species.
Scallops:		
Bay		*Pecten irradians* (Atlantic coast). *Pecten aequisulcatus* (Pacific coast).
Sea		*Pecten magellanicus.*
Squid		*Loligo opalescens* (Pacific coast). *Loligo pealei* (Atlantic coast).
Sea urchins		Echinoidea.
Terrapin	Diamond-back terrapin	Malaclemmys species.
Turtles:		
Green		*Chelonia mydas.*
Loggerhead		*Thalassochelys caretta.*
Hawksbill		*Chelonia inbricata.*
Snapping	Hard shell, alligator turtle	*Chelydra serpentina.* *Macrochalys lacertina.*
Soft shell		Trionyx species.
Frogs		Rana species.
Irish moss		*Chrondrus crispus.*
Kelp		Macrocystis species; Nereocystis species; Pelagophycus species; Alaria species.
Sponges:		
Glove		*Spongia graminea* (Hyatt) *Euspongia officianalis* (L.).
Grass		*Hippospongia equina cerebriformis.*
Sheepswool		*Hippospongia canaliculata gossypina.*
Yellow		*Hippospongia equina elastica.*
Trepang	Sea cucumber	*Cucumaris frondosa; Thyone briareus.*

A. M. SANDBERG